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Elementary School

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Harold Spears, Editor

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MODERN ELEMENTARY
SCHOOLS, Second Edition

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PREFACE

Our concern in the pages that follow has been with what the schools do for children. We have applied the basic principles of psychology and the social sciences to the daily learning problems of children, and have tried to show how the curriculum can and should grow out of research on the nature of man and his interaction within his physical and social environment. We have attempted to evolve and describe some principles that can be of value in the classroom. For those who teach, administer, or supervise in the elementary schools, this book will help to coordinate and organize for classroom use materials from a wide variety of courses in education. It is useful in an introductory course or, on another level, as a unifying and integrating framework for knowledge acquired in more specialized courses.

Revision has been so extensive that the book is almost entirely new.

Part One is devoted to the practical implications of work that has been *done on ways to motivate children, to increase the effectiveness of group work and social learning, and, above all, to increase the quality, rate, and permanency of learning.* Methods of dealing with individual differences and with the evaluation of student progress have been given special attention. These are among the most vexing problems confronting the teachers and parents of children in elementary schools.

Part Two classifies and describes various types of curriculums—their content, strengths, and limitations. Those who deal directly with children sometimes have difficulty in spelling out their goals, in finding just the right ideas and materials to use with pupils in attaining these goals, and in using the printed outlines and other resources that are available. In this part, we have described curriculum outlines as they apply what is known about the teaching of reading and the other language arts, arithmetic, social science, natural science, and art.

Part Three is composed of three narratives illustrating how teachers in three different communities approach their classroom work and, working with parents in a community, develop instruction that applies the prin-

ciples developed in Parts One and Two. These narratives also aid in understanding and utilizing these principles

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Finally, the authors wish to express their gratitude to the many excellent teachers whose work is reflected at various places in the book. However, all teachers' names and all illustrations of inept or poor practices are fictitious and any similarities to real persons and events are purely coincidental.

Robert H. Beck

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PART

New research in education and in psychology and other related sciences has made it necessary for curriculum-makers to re-examine many of the principles and practices of the past. In some cases the old practices proved satisfactory. In other cases it is obvious that the old methods left much to be desired. They were variously inefficient, ineffective, cumbersome, and wasteful of time, effort, and money.

Change, modification, and adaptation are always necessary as research in any field furnishes evidence that better methods are at hand. Part One of this book draws upon various sources for background necessary to a modern conception of curriculum. Emphasis is placed upon understanding and motivating students, increasing the quality, rate, and permanency of learning, increasing the effectiveness of group work and social learning, and evaluating the growth and learning of children as individuals and as members of a group.

Throughout, the ramifications of individual and trait differences of children are stressed. Part One provides material that allows teachers to teach with an understanding of why things are done, why they are effective, and how they may be continually improved.

ONE



INTRODUCTION TO

Children gradually become curious about the problems of people in distant lands. They study different methods of communication and transportation and gain new insights into the ways in which natural resources, geography, and national interests influence the lives and thoughts of people everywhere.

• Curriculum is a Broad Concept

The curriculum is often defined as the educational experiences that children have in school. This is a broad definition and includes far more than any mere outline of facts, skills, attitudes or ideals, though these are important, too. The personalities of the teacher, the principal and the janitor, must be included. In fact, the whole community—and beyond that the total culture—affect the children in school and, to the extent that they do, are a part of the curriculum.

Curriculum is the very heart of the educational process. Other aspects of education exist so that there may be an effective curriculum. Informed teachers, principals, consultants, and supervisors have been emphasizing a broad modern conception of curriculum and teaching for over a decade. This book has been carefully planned (and extensively revised) in an effort to provide an adequate introduction to curriculum. It presents, in simple and usable terms, the essentials of curriculum procedure.

To begin the study of curriculum in the modern elementary school, it is necessary to look at it in light of (1) the objectives that society hopes to gain by establishing schools, (2) the available methods and tools of learning that can be made use of by teachers, parents, and others, and (3) the nature of the children, with all their complexities and differences, who are to be educated.

The objectives of any curriculum grow out of the culture of a people, out of their ideals and aspirations, their social and individual values, and their problems that cry for solution. Educational aims are affected by many aspects of man's physical and social environment; they grow out of man's desire to assure his own welfare.

The methods and tools of learning are the result of developments in allied fields such as anthropology, educational sociology, mental and physical health, growth and development, the psychology of learning, and the measurement of

learning and of ability. The study of children reveals that there are great differences between them in what they learn, what they *want* to learn, what they remember, what they understand, and what they are able to use. The study of how children learn reveals that we have underestimated the importance of success and praise and pleasure as motivation for further hard work and excellent performance. The manner in which people join into groups and function as group members in learning situations is also highly significant in planning the curriculum.

The nature of the learners is obviously important in any situation where learning is to take place. Knowledge and information about the nature of childhood and youth have increased in recent years. We know that each learner is unique, but that children are peculiarly dependent on the many groups with which they become identified. Despite his similarities to other learners, each child has distinctive characteristics that make it essential to consider him as an individual. Knowledge of individual and group characteristics can be presented, in part, around the concept of child growth and development. The child is not born adult. He is at first a helpless infant and his ultimate maturity is the result of slow growth. At the age of seven or ten or fourteen, he is not to be regarded as a young adult, but is rather to be thought of in terms of his particular stage of the developmental sequence through which all children go. This sequence is apparent not only in physical development, but also in the growth of knowledge, the development of personality, and the attainment of the ability to think independently. Some of the stages in these patterns are so well fixed that they can be predicted in individual cases. Others are "tendencies" that do not always exhibit themselves. There are always great differences between individuals in the degree and strength of the growth and development of the various traits. Many of these factors should be taken into account in the curriculum.

• Curriculum Problems in Practice

The curriculum is concerned with many basic questions. In some elementary school classrooms these questions fairly beg for answers. There are groups of children, all different—in intellectual ability, in need, in interest, in health, in strength, in persistence, in sensitivity, in appearance, in attractiveness, in gracefulness, in self-confidence, in verbal ability, in suggestibility—in any characteristic that can be named or defined. What can the teacher do to fit all these children for their roles in later life? What is to be done *for the few slow children who will never learn to read well*? How is the young scholar to be guided who reads and seems to understand everything he lays his hands on? What of those children who spell all the

words but cannot write them? What of those whose whole interest is in music or art or some other single subject?

Special talents and abilities must be encouraged, yet the knowledge and skill that all people will need in the society of the future should be a vital part of the curriculum. How can this be assured? Are the right subjects being stressed? The right skills and attitudes? Are efficient methods "built into" the curriculum? Do pupils have a chance to use the things they learn in situations that are important to them? Why does one child conform without trouble to the rules of the classroom while another vigorously fights back? Is it enough to go through a succession of textbooks, giving examinations and marks? How much will a willing teacher be *able* to do? There are hundreds of questions of this kind. The people who are now teaching or preparing to teach must supply many of the answers.

Any observer in most schools is pleased at the pleasant, friendly attitudes of the pupils. Most of them come to school expecting to learn things they need to know or "ought" to know. It soon becomes apparent that children believe in education—some to a far greater extent than do their elders. Young children seldom question the wisdom of learning what they are told to learn, though they often question their own abilities to learn. Some children need only encouragement and praise to increase the pace of their learning. Yet it is also in our culture to resist the teacher a bit—to play a little game of naughtiness that generally dies out for lack of attention, encouragement, or reward.

All the problems in a school, all the things that need attention, are important because they have something to do with somebody learning something. They involve individual children who are to be taught. Simply, the curriculum is made up of the things that happen to and with children at school. Something happens that involves the mastery of facts and skills, the development of attitudes and values, the power to solve problems—the power to do (or refuse to do) all the things that are within the power of mankind.

• The Curriculum Changes

The curriculum changes, but in general it changes slowly. The permanent and important developments are largely the result of an experimental approach to the task of educating children. It is important that professional educators do all in their power to see that changes are based on careful research and that tentative trial and acceptance precede widespread adoption.

As the sciences of education develop, there will be a corresponding im-

provement in educational practices in the classrooms. There will be no relaxation of emphasis on the important tool subjects, but there may be important improvements in the manner in which they are taught. In addition, there will be increased attention to mental health, social skills, the satisfaction of basic emotional and physical needs, good citizenship, scientific thinking, problem solving, love of learning, and persistence in the pursuit of intellectual goals.

Despite the research that has already been done, there is much more that we need to know if we are to improve our curriculum. There can be no doubt that new research will stimulate many changes not now contemplated. The implementation of improvement will depend on educators who understand how sciences develop and bear fruit. Progress will depend, too, upon the support of intelligent citizens. The first steps, of course, are those necessary to make the schools as good as possible today—to put into practice what we *now know*, to devote ourselves to the improvement of elementary education today and in the future.

• Discussion Questions and Exercises

1. As a preliminary step, you may wish to write a paragraph explaining your own definition of curriculum. After completing the book (and the course) you may wish to revise the paragraph.
2. Try to write an old-fashioned (circa 1900) definition of curriculum.
3. What does a society gain from its schools? Stability? Equality? Democracy? Obedience? Conformity? Morality? Strength? Luxury? High taxes? Progress? Which of these are valid reasons for supporting schools?
4. From your present knowledge, name two or three new methods of teaching that differ from and are improvements on the way you were taught.
5. What do you want to find out about the way in which children learn? If you cannot answer this question, is it because you think you already know enough, or is it because you are not yet alert to the many problems faced by teachers?
6. Would you like an outline that would suggest to you what to teach the children each day of the year in each subject and grade? Why?
7. Do you believe teachers should help to plan the curriculum outlines published by a school system? Why?
8. Do you believe that schools are less effective than they were in 1900? On what objective, scientific basis do you base this opinion?
9. Write out two or three problems or questions about curriculum that seem more appropriate than those at the end of this chapter or those within the chapter. Why do your questions have validity for you?
10. Do you think you would be better off as a teacher if you took more courses in the various subject-matter fields and fewer courses in "education"? Why? Will you check on this question at the end of the course (or book) and

see if your opinion has changed? (Is it a mark of superiority or inferiority to change an opinion upon occasion?)

11. Visit an elementary classroom for an hour and write your observations. In what details might the classroom procedures differ from an imaginary class in the same subject and grade in a school in 1920?

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HISTORICAL

Just as the study of prehistoric animals and their evolution leads to a deeper understanding of contemporary animal forms, so a review of the traditional methods and rather limited goals of early schools lends new significance to the broad, far-reaching aims of modern education.

Curriculum has been influenced by historical as well as by contemporary forces. Modern elementary schools have many roots in the fifteenth and sixteenth centuries. There were Greek, Roman, and early Christian ancestors to our elementary schools, but modern schools did not develop from them directly. The more traceable antecedents were the haphazard schools of the sixteenth century called "hedge schools" by historians because often they were held behind a sheltering hedge. It was not till the 1830's that graded elementary programs began to develop in the United States. Actually it was 1847 when Quincy, Massachusetts constructed the first school building specially designed for groups of children divided into grades.

There was the growing popular desire in the fifteenth and sixteenth centuries to learn to read the simple catechism and, if possible, the Bible. The invention of the printing press in the fifteenth century greatly increased the availability of printed materials. As we know, early printing was largely devoted to religious subjects rather than to such secular studies as geography, history or others that were later to become conventional. The New England schools of the seventeenth century clearly showed this religious influence. Perhaps the most memorable of the New England texts was the *New England Primer* of 1690. This book opened with the printed alphabet, whose letters were used in descriptive sentences ("In Adam's fall We sinned all"), succeeded by easy words of one, two, three, and four syllables. Then followed the Lord's Prayer, the Apostle's Creed, and as a conclusion, the catechism.

Although the *New England Primer* was a great deal more effective than the older "hornbook" (see footnote 1 on following page), it was not the predecessor of today's expertly devised reader. That was the book written by John Amos Comenius (1592-1670).

no evidence existed to prove that children are born with experience or information. He lent his prestige to the same "sense realist" view that Comenius had championed: children learn only from their contacts with the environment.

To illustrate his idea, Locke pictured the mind at birth as a *tabula rasa* or translated literally, "shaved tablet." (In classic times, children employed a stylus to engrave their letters on a wax tablet. After the exercises had been corrected, the tablet was scraped clean.) At birth, conjectured Locke, the mind is much like one of the school boy's tablets—neatly erased. Experience writes upon the mind by feeding into it experiences that the "faculties" of the mind make into ideas. This may seem to be a naive, purely literary description of learning, but it was as well as a philosophy could do at the time.

Locke's view of the mind encouraged a very formal type of academic discipline but, at the same time, it had a humanizing influence on education. Formal academic discipline was encouraged by the belief that the faculties needed exercise if they were to develop properly. In *Some Thoughts Concerning Education*, Locke suggested that the exercise be rigorous, "As the strength of the body lies chiefly in being able to endure hardships, so also does that of the mind."³ One satirist said, "It does not matter what you learn as long as it is unpleasant." There is no denying that Locke set a hard row for youngsters, but his idea of the *tabula rasa* made some amends. If an educator took the conception of the *tabula rasa* seriously, he would believe that good teaching could overcome almost any handicaps. Locke's idea was formed in the days when not much was known about the relative importance of heredity and environment in determining learning ability. Perhaps research into genetics has dampened some of the optimism that goes with the extreme environmentalism of Locke's opinion, but we still agree that there is no substitute for superior teaching in exploiting the full potential of the child.

Comenius and Locke told teachers that children learn about the world by using their senses, that words, numbers, and everything else should be taught in association with an object or an action. Direct sense perception is preferable, having greater impact. The sight of a rooster is superior to a picture of a rooster, said the sense realists, but a picture is better than using the word "rooster" in a classroom without any visual example at all.

For the seventeenth century that was a new emphasis. Previous seventeenth century instruction had been largely confined to words. However, the emphasis on sense realism was not nearly as radical as the reforms to be suggested by Jean Jacques Rousseau in the eighteenth century.

³ John Locke, *Some Thoughts Concerning Education*. London: Cambridge University Press, 1899, p. 21.

• "Sense Realism" Becomes Important

Fundamental to the viewpoint Comenius made known throughout Northern Europe in the seventeenth century, was his conviction that the senses, especially those of sight and hearing, are the source of impressions from which knowledge could be constructed. Though not a scientist, Comenius learned enough about children to believe that their knowledge developed out of experience within their environments. In this, he departed from the classic tradition that placed knowledge based on experience in an inferior position, well below the validity of "speculative wisdom." Comenius' viewpoint is illustrated in his own monumental *Orbis Pictus*, the first known picture-book text and one that augmented the "realistic" movement in education. The primacy of sense experience to which Comenius gave dramatic emphasis has remained prominent to the present day; it was a speculative idea from the past that scientific study has now confirmed.

Another sense realist was John Locke (1632–1704). One of Locke's theories was that the mind is composed of separate faculties, an approach that today is called "faculty psychology." Faculty psychology went unchallenged scientifically until its philosophical conclusions were called into question by the experiments of a hard-headed psychologist, Edward Lee Thorndike (1874–1950). Thorndike found no evidence substantiating the supposition that the mind functioned through separate powers or faculties such as reasoning, imagining, and willing, nor could he find support for the belief that time-honored subjects (e.g., Latin or algebra) had special utility for disciplining the mind.² Thorndike's conclusion was that the disciplinary value of a subject depended in part upon the attitudes or objectives of the student and in part upon the imaginativeness of the teacher in promoting critical thinking.

Locke must not be dismissed with the mere mention of his faculty psychology, though it was a dominant influence on curriculum for many decades and is still influential in the thinking of some people. Locke is also important because he helped to break down Plato's theory of "innate ideas." Plato believed that children are born with a great many ideas that remain dormant until stimulated by experience and teaching. Locke insisted that

¹ The hornbook was simply a paddle-shaped piece of wood with an attached sheet of paper covered with a layer of transparent horn, a bit more opaque than present-day clear plastic. On the paper was written the alphabet, vowels, a few syllables, Roman numerals and often the Lord's Prayer. The horn functioned as a protection against smudging and marking.

² Edward Lee Thorndike, "Mental Discipline in High School Studies," *Journal of Educational Psychology*, Vol. 15, November–December, 1924, 1–24, 83–98.

samples of various types of coal and with industrial exhibits outlining the uses of coal in chemical industries and steam production.

The theory behind all this is simple: the assumption that learning is a process of generalizing upon a number of sensory experiences. To facilitate generalization and to insure that the desired generalizations are obtained, various sense impressions are afforded in a well-planned sequence. In the lesson on coal, the resultant generalizations may be an understanding of the chemical composition of coal, the extent of this natural resource, its uses, or its history.

The Oswego Normal School helped to develop new methods of teaching in the United States. It was not that the theory of Pestalozzi was new—actually, it did not go beyond the insights of Comenius, Rousseau, and Locke. The advantage to teachers lay in the fact that Pestalozzi's theories were translated into teaching methods. Moreover, the methods were systematically appraised and improved. The Prussian normal schools, Pestalozzian in philosophy, had shown what systematic training could mean in the professional preparation of teachers. For the improvement of instruction, the Oswego Normal School was one of the first successful American undertakings in the same professional direction. Student teachers had been helped to understand the theory of learning as Pestalozzi understood it, had been drilled in the Pestalozzian teaching method, and had knowledge of appropriate classroom materials.

So well did the Pestalozzian methods work that they were not challenged for a generation or more. Indeed, the Pestalozzian methods worked almost too well. Too few teachers used imagination in adapting what they had been taught in normal school. Pestalozzian methods and materials became mechanical devices.

Friedrich Frobel (1782–1852) continued in the Pestalozzian tradition. He gave us the kindergarten, literally a “garden of children.” It was to be a place where the use of special materials would help children's innate, splendid natures unfold as flowers unfold. Without question, his emphasis upon allowing children of four or five to learn through play was an insight of high order. If educators had understood why play was as effective as it was, kindergarten teaching might not have slipped into its long period of sheer mechanization. Frobel was a mystic, who was certain that handling objects of varying shapes had an almost magical effect on the mind and spirit of children. His system did not lead to knowing more about children, since it had little possibility of being altered in the light of any new knowledge about the manner in which children grow and behave. However, we must credit Frobel with the same humane attitude toward children that was held by his predecessors, Comenius, Rousseau and Pestalozzi.

Rousseau (1712-1778) took a step beyond Locke in pointing up the importance of environment. In his book, *Emile*, Rousseau wrote that man comes forth good from the hand of God and becomes evil only through contact with the society that surrounds him. Rousseau's meaning is clear: the environment is far more important than heredity. In Rousseau's view, a youngster can be made or broken by his environment. Because the school touches upon so many of his waking hours, the school has singular significance in the environment. No writer after Rousseau did more to magnify the role of the teacher. Although few teachers ever completely agreed with Rousseau's optimism, writers on the elementary school curriculum were impressed with Rousseau's ideas and urged teachers to deal kindly with children.

Rousseau's influence did more than promote the humane treatment of children. Along with Comenius and Locke, Rousseau's concern with the problem of educating the young drew attention to the need for more data on child growth and development. Much that he wrote proved highly controversial, but because of him, education advanced toward the scientific study of child behavior.

The next significant step was made by a Swiss, Johann Heinrich Pestalozzi (1746-1827). Pestalozzi rounded out the sense realist tradition. Less a theorist than Locke, Pestalozzi stood with Comenius in seeking ways of *improving elementary school instruction*. The teacher was to take every opportunity to illustrate each idea with an object—an approach clearly in the "sense realist" tradition. He urged teachers to proceed from the concrete to the abstract (from showing children objects or pictures to associating the object or picture with the word which denotes it), from the simple to the complex (from letters to syllables, to words, to sentences); from what is familiar to children to that which is remote in their daily experience. The schools Pestalozzi established were practical. Doubtless this practicality attracted normal school teachers to Pestalozzi. In this country, the first to exploit these methods was Edward A. Sheldon (1832-1897) who brought Pestalozzian "object teaching" to the normal school at Oswego, New York, where he taught teachers the use and value of field trips, shop work, and "inductive lessons."

Inductive lessons illustrate the Pestalozian theory of learning. In an inductive lesson on coal, for example, the teacher might bring a lump of coal to class. The interests of the students in the subject of coal are presumed to be invited by the presence of the real substance. As the lesson develops, more illustrative materials are introduced. Ultimately, the walls of the room come to be lined with pictures of coal mines and steam engines, and exhibition cases in the rooms and halls are filled with neatly labeled

ideas evolved. On the other hand, ill-digested experiences were sent off to a discard pile, there to linger on and be subject to recall or to join the host of dim memories. The fewer pains a teacher took to point out how today's lessons associated with yesterday's, the smaller was the student's apperceptive mass. A competent teacher had to guide the student day by day in associating his new perceptions with the old. As this was done, the student's store of knowledge, his apperceptive mass, grew.

The essence of Herbart's method was systematic preparation, presentation, generalization, and review. The same type of orderliness pervaded Herbart's thoughts about subject matter and its "correlation," a topic around which centered many of the educational controversies of his day. Herbart published essays declaring that subject matter should be correlated around some core, usually history and literature, although it might be geography. To help the teacher guide the pupil, Herbart suggested five steps in teaching:

Step 1. *Preparation.* The teacher begins the lesson by recalling what he feels to be already familiar to the class. He misses no opportunity to make the students feel secure in their ability to extend their apperceptive mass. "Today's lesson is really very much like yesterday's. You remember that we were talking about water. Is water always like what comes out of the faucet? . . ."

Step 2. *Presentation.* Having established a common base, the teacher begins introducing the new ideas. "Let's see if we can jot down on the blackboard some of the ways water appears. . . ."

Step 3. *Association.* The teacher is most careful to show students that new materials cover points with which the students are already familiar, as well as information that is being covered for the first time. "Can anyone tell us whether snowflakes, hailstones, raindrops, and water vapor are alike in any other ways? . . ." Then the teacher works to see that these points of similarity are firmly established.

Step 4. *Systematization or generalization.* The teacher asks the students to generalize about new ideas. "Shall we see whether we can tell what might happen to water vapor on a warm summer day or on a cold winter day? . . . But it was always some form of water, was it not? Some day you will know more about water. You will know that any water you come across, whether it is ice or steam, has two things in it, hydrogen and oxygen, and that there is always twice as much hydrogen as there is oxygen. . . ."

Step 5. *Application.* The teacher asks the student to make other illustrations of the new idea. In the good old days this often meant doing the problems at the end of the chapter.

The Herbartian method was a splendid aid to inexperienced teachers,

• Philosophy and Psychology Are Separate

Johann Friedrich Herbart (1776–1884) can be given credit for stimulating the need for the scientific study of human learning (although he did not distinguish himself in the performance of such studies). Before him, the sense realists had contributed to teachers a substantial theory of human learning and some effective methods and useful materials. Herbart also developed an orderly method for teaching, and his method was based on psychological theories that obviously called for scientific verification. As his work attracted attention and the need for the scientific study of psychology became recognized and acted upon, philosophy and psychology came to a parting of the ways.

Although he was a professor of philosophy, Herbart will be remembered by educators for his theories of psychology; certainly his influence on elementary school curriculum theory came through his theories on the operation of the human mind. Until Herbart's ideas became known to teachers, the relatively simple principles of John Locke were the principal source for a widely accepted systematic "educational psychology." The *tabula rasa* conception of the human mind was the most promising theory available to teachers, who were to "multiply" the experiences of students through the use of objects, field trips, and demonstrations. Such experience was considered the only way to learn about the world in which we live. Books or pamphlets on teaching contained no conscientiously formulated suggestions on how the teacher might best organize the sense experiences of students or help children distill knowledge from their observations.

Herbart offered a very plausible picture of the human mind and of how to teach systematically. Herbart placed considerably less emphasis on experiences for their own sake than had the earlier sense realists. He showed less confidence than the sense realists in the ability of the unguided student to convert his experiences into wisdom.

In place of Locke's *tabula rasa* view of the human mind, Herbart had a description which made the mind definitely more *active if not creative*. Herbart (and the Herbartians) wanted the teachers to see the mind as doing something with the impressions it received. He wrote of the mind as an "apperceptive mass," intending to suggest a mind that "devoured" sense perceptions and assimilated them into an orderly arrangement. The apperceptive mass included a continually replenished quantity of perceptions waiting to be sorted into generalizations. Not all these perceptions were equally lively, however. Those that had been experienced most recently and that had been clearly explained upon reception—by the teacher, for example—were the more lively. These were the experiences from which

ideas evolved. On the other hand, ill-digested experiences were sent off to a discard pile, there to linger on and be subject to recall or to join the host of dim memories. The fewer pains a teacher took to point out how today's lessons associated with yesterday's, the smaller was the student's apperceptive mass. A competent teacher had to guide the student day by day in associating his new perceptions with the old. As this was done, the student's store of knowledge, his apperceptive mass, grew.

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The Herbartian method was a splendid aid to inexperienced teachers,

educated in a day when little was known about scientific pedagogy and when instructional material was limited pretty largely to a single textbook. Herbart believed that the teacher should go to any length in developing associations (and hence meanings) between hitherto unrelated facts or impressions. In actual practice, however, his methods became identified with the rote memory of facts and principles and with the imposition of knowledge on children by subject-matter specialists. The drill masters neglected to encourage the children's own insight. As might happen with any teaching method, the mass application of Herbart's theories failed in the hands of untutored, uninspired educators.

Herbart's ideas soon were rejected, however, on more intelligent grounds—his theories had not been based on experimental evidence. For example, within a few years of its founding, the National Herbart Society became the National Society for the Scientific Study of Education.⁴ However, the scientific study of education was not a repudiation of Herbart or a reaction against him. Rather, it was a reaction against sole reliance on speculative philosophy. Herbart's right to a place in psychology is sustained by the fact that Edward Lee Thorndike, certainly one of our chief psychologists, carried on the Herbart tradition in the study of "associationist" psychology.⁵

• Associationism

Since Herbart's time, the entire "associationist" position has been brought under fire by educators and psychologists who feel that the associationists are in error in their misinterpretation of *interest* and their failure to recognize that purpose is the principal motivation for human learning.⁶ The discussion of this vital problem is a long way from being ended. It may well be that no other is of greater importance for elementary school curriculum theory. If the associationists are correct, the experiences of the child in school should be on the order of those recommended by Herbart. His steps, reviewed above, are models for what is meant by associationism. Their purpose is to associate new experiences with old experiences, new ideas with familiar ideas. Background to this controversy will be given in later chapters such as those on motivation and on principles of learning.

⁴ Now the National Society for the Study of Education.

⁵ Edward Lee Thorndike and Arthur I. Gates, *Elementary Principles of Learning*. New York: The Macmillan Company, 1930, pp. 247-250.

⁶ Ernest Hilgard, *Theories of Learning* (second edition). New York: Appleton-Century-Crofts, Inc., 1956. Chapter 2.

To appreciate the criticism of associationism by philosophers⁷ and psychologists, we must understand what it assumes about learning and the world in which learning takes place. Associationist learning theory takes on meaning when seen as a revolt against classicism and as the culmination of a tradition extending from Comenius through Locke to Pestalozzi and Herbart⁸—the tradition of sense realism. Its proponents believed that the senses are the agencies through which men come to know reality; reality is that which the senses perceive.⁹ Associationism is the psychological explanation of the process by which man converts his sense impressions into ideas, generalizations, or what we more familiarly call knowledge.

Herbart's associationist theory was the product of its day—a day in which there was practically no experimental evidence on how human beings learn. It is from Edward Lee Thorndike (1874–1949), and Thorndike's associates that we come to understand modern associationism and its recommendations for teaching. As a professor of educational psychology, Thorndike worked for the improvement of teaching methods, as well as for the advancement of knowledge.¹⁰ Sympathizing with a teacher's desire to promote learning, Thorndike devoted years to learning how a teacher could help his students eliminate wrong responses (mistakes) and assure correct ones.

"Responses" are not only answers to specific questions or solutions to the problems in the workbook or textbook. As a psychologist, Thorndike employed a professional vocabulary, a form of shorthand, to describe his theory. Stimuli were anything coming from the outside world and affecting the individual through his senses. Responses were the reactions of the human being to these stimuli. How, asked Thorndike, shall we establish "bonds" or connections that would invariably join the correct response to any given stimulus? This was a question asked by a psychologist interested in helping teachers.

Thorndike pressed his study of human learning to the point where he felt it yielded knowledge of fundamental "laws" explaining how learning

⁷ An excellent philosophical analysis written on Thorndike's associationism is that of H. Gordon Hultfish, *Aspects of Thorndike's Psychology in Their Relation to Educational Theory and Practice*. Columbus, Ohio: The Ohio State University Press, n.d.

⁸ In the history of philosophy, this tradition is known as Empiricism. Francis Bacon is usually named as its first sponsor in Europe.

⁹ In that branch of philosophy where problems of human knowledge are studied, sense realism is said to stumble over the fact that senses often give us false reports.

¹⁰ The reader who wishes to have a summary of Thorndike's studies is referred to "In Honor of Edward Lee Thorndike," *Teachers College Record*, 41:695–766, May, 1940.

takes place. He concluded that learning was a matter of trial-and-error—the trial of one response after another until the correct one was discovered. An efficient teacher could assist a student to learn the correct responses by rewarding him when he succeeded and, when he failed, by providing him with “opportunities” for sustained drill on the correct responses. In the language of psychology, Thorndike thus generalized what he thought to be two laws of learning, the laws of *exercise* and of *effect*.

THE SCIENTIFIC STUDY OF CHILD GROWTH AND DEVELOPMENT

Until G. Stanley Hall (1844–1924) published “The Content of Children’s Minds on Entering School” in 1891, there had been almost no scientific study of children.¹¹ Child-study has attained impressive stature as an area of research during the past half century, and modern education properly feels dependence on it. Before 1900, teachers just did not have reliable information on what children of any age could be expected to accomplish *on the average*. That is, they lacked the “norms” now available for reading, arithmetic, handwriting, and the other subjects and skills taught in the elementary school. Nor did they have dependable information about the *readiness* of children for instruction in the various subjects. Before 1900, knowledge of child behavior was based largely on observations of individual children who were known personally to the observer. A scattered few of these observations found their way into print. Perhaps the earliest was the “diary record” Tiedman published in 1787, and the record of his own son’s development which Charles Darwin, author of “Origin of Species,” published in 1877.¹²

G. Stanley Hall’s “The Content of Children’s Minds on Entering School” was a milestone. The data he reported would not today be gathered solely by use of a questionnaire but this technique of objective inquiry was quite new in 1891. Hall effectively demonstrated the need for other techniques in inquiry and the interpretation of data. Those other techniques came largely in the field of statistics, serving to improve the interpretation of data, permitting statements about average behavior, correlation of factors that might influence such learning, and so on. Perhaps a little more slowly,

¹¹ G. Stanley Hall, “The Content of Children’s Minds on Entering School,” *Pedagogical Seminary*, 1:139–173, 1891.

¹² For extended comments on the implications for education research in the area of child growth and development, see Mildred C. Templin and Robert E. Beck, “Some Contributions of Child Study to Modern Education,” in *The Three R’s Plus*, Robert H. Beck (editor), Minneapolis, Minnesota: The University of Minnesota Press, 1956. An excellent account of the antecedents of contemporary child study has been published by Wayne Dennis, “Historical Beginnings of Child Psychology,” *Psychological Bulletin*, 46:224–235, May, 1949.

students of child growth and development refined their techniques of observation. In tandem, these improved techniques of observation and reporting and the refined tools of measurement and statistical interpretation made possible in the 1920's the great progress in the study of children's development. By 1921, the *Iowa Child Welfare Station* was beginning to make the important reports that have been a mine of information about the development of the child. Arnold Gesell, who was to become an eminent student of childhood, published his first study of childhood in 1925. But if a single publication is to signal the advent of maturity in the scientific study of child growth and development, it is the "Child Psychology" of Fowler D. Brooks.¹³

Change has been slow. Except for some emphasis on experience and correlation, very little of what Comenius, Locke, Rousseau, Pestalozzi, Herbart, or even Thorndike had to say altered the broad view of what the elementary school curriculum should be. It was persistently held that the elementary school had as its one main objective the mastery of the three R's—and the three R's were narrowly conceived. This view of the content of the elementary-school curriculum changed little prior to the turn of the century. The old courses of study remained in use long after they were attacked by the sense realists. The impact of the associationists was not sudden, nor when its effect was felt did the old courses of study and teaching methodologies fade quickly. Curriculum change is slow even today; the actual curriculum as it may be seen in elementary classrooms lags behind theory. However, the curriculum is changing at a faster pace than ever before in educational history.

Until after 1910, curriculum-making was pretty largely in the hands of private school and college administrators, who were guided, in turn, by specialists in the various secondary school subjects. In 1893 and 1895 respectively, the Committee of Ten and the Committee of Fifteen appointed by the National Education Association were dominated by the theories of faculty psychology. They recommended that time be economized in the elementary schools in order that a place might be found for secondary-school subjects and for introductions to secondary-school studies. One suggestion was to substitute Latin for English grammar in the eighth grade. Such recommendations were made without any scientific data regarding the needs of children, the characteristics of children at different levels of development, or the psychology of learning. They were based on the assumption that certain subjects strengthen or sharpen the wits to such a degree that their study automatically transfers to all later living. The

¹³ Fowler D. Brooks, *Child Psychology*. Boston: Houghton-Mifflin Company, 1937.

recommendations were reasonable enough,¹⁴ being based, as they were, on the beliefs of the time.

• The Scientific Approach to Educational Objectives

In the early history of education, the objectives of the schools were considered in the same speculative way that was used to describe the process of learning and the best methods of teaching. Greek teaching had for its objective the training of superior young men to be soldiers, philosophers, and gentlemen. Roman education added the study of government and the early Christian schools emphasized knowledge of Christianity. Under the influence of the Reformation, the schools stressed reading, especially of the Bible and the catechism. Other subjects and skills were added in succeeding centuries. The sense realists had one objective—the development of man to his highest possible degree of intellectual ability, an idea carried to its ultimate in William James' thought that the world held inestimably more relationships than those of which man was taking advantage.

The first significant attempt to formulate objectives that might be scientifically verified was made by Herbert Spencer. His essay, "What Knowledge is of Most Worth," a study in the process of social adaptation, had appeared in the July, 1859 issue of the *Westminster Review*. Spencer declared that a scientific study of society would reveal certain types of information to be absolutely essential for human survival and for the progress of society. He divided adult living into such spheres as earning a living, rearing a family, or spending leisure time. Having made this analysis of living, his next move was to prepare an inventory of the information, knowledge, and skills that would make men efficient in each essential area.

THE MEASUREMENT MOVEMENT

The theories of association and of faculty psychology might have persisted much longer had it not been for the rise of the measurement movement. Though Thorndike has been called an associationist himself, he saw

¹⁴ For an excellent historical review of research on the curriculum, both elementary and secondary, see Margaret G. McKim, "Curriculum Research in Historical Perspective," in *Research for Curriculum Improvement*, 1957 Yearbook of the Association for Supervision and Curriculum Development, NEA, Washington, D.C.: The Association, 1957.

A complete and thoughtful review of changes that have taken place in the interpretations both of teaching and of learning is to be found in Walter S. Monroe, *Teaching-Learning Theory and Teacher Education, 1890-1950*. Urbana: University of Illinois Press, 1952.

clearly the need for scientific verification of the claims made about the disciplinary value and the transfer value of the required subjects. Thorndike's research threw grave doubt on the theory that certain subjects "trained" the mind or "cultivated" the intellect;¹⁵ but his most significant contribution was in demonstrating measuring techniques, a development that marked a turning point in the study of education. By 1930, America led the world in educational research. Handwriting was measured in 1908; and it was but a step from that to national "norms" for spelling and arithmetic.¹⁶ The march was on. Research bureaus were inaugurated in city schools and in 1910, New York pioneered in a city-wide study of instructional results.

Needless to say, these methods did not meet with universal approval. There were those who felt that too much attention was being paid to testing and measuring and too little to fitting objectives to the needs of children and society.¹⁷ The educational scientists were now challenged to produce

¹⁵ Thorndike's examination of faculty psychology, mental discipline, and automatic transfer of training extended from 1900 to 1930. Perhaps the first step was taken in experiments that were summarized in E. L. Thorndike and R. S. Woodworth, "The Influence of Improvement in One Mental Function Upon the Efficiency of Other Mental Functions," *Psychological Review*, Vol. 8, 1901, 247-251, 384-395, 556-564. In these articles Thorndike and Woodworth first suggest that there is little evidence for separate faculties of the mind. The educational corollary of this was the belief that a course should not be taught to train the memory separately from training in critical thinking or imaginative response.

In the middle 1920's, Thorndike released a number of studies that upset the idea that Latin, or any other subject reputed to discipline the mind, was superior in mental training to any other subject. Perhaps the best known of Thorndike's writings on mental discipline is to be found in E. L. Thorndike, "Mental Discipline in High School Studies," *Journal of Educational Psychology*, Vol. 15, November-December, 1924, 1-24, 83-98.

¹⁶ "Norms" have been misinterpreted and treated as standards which all students of an age or of a grade might be expected to achieve. This misunderstanding of the meaning of "norms" has persisted although the research that has established the norms claims no more than that they are averages of what children of an age or of a grade achieve in any skill or performance for which they are measured or tested. The norms suggest to a teacher what average, and in that sense, normal performance is. Should a child rate quite far below or above the norm, the teacher is justified in studying his performance in order that his work can be adjusted to the diagnosis. As an example of how the teacher can use carefully interpreted data from achievement tests, how he can proceed with diagnosis and remedial instruction, at least in reading and arithmetic, the reader is referred to: (1) Guy L. Bond and Leo S. Brueckner, *The Diagnosis and Treatment of Learning Difficulties*. New York: Appleton-Century-Crofts, Inc., 1955; and (2) Guy L. Bond and Miles A. Tinker, *Reading Difficulties: Their Diagnosis and Correction*. New York: Appleton-Century-Crofts, Inc., 1957.

¹⁷ See the remarks of Harold Rugg writing in *The Foundations and Techniques of Curriculum Construction*, 26th Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1926, p. 81.

the evidence upon which educational objectives could be firmly based.¹⁸

Spencer had a tremendous vogue in the United States during the early years of the scientific movement in education. American educators found that he offered them utilitarian objectives suited to the technological civilization of this country. So well did Spencer fit the American scene that for years after the first American appearance of his thinking, every important statement of educational objectives closely paralleled his work.¹⁹

It is not necessary to debate here whether Spencer was correct in his conception of the objectives of education. His criteria have often been interpreted and applied without imagination, just as were the ideas of Herbart, Thorndike, and others. In the final analysis, however, his objective, scientific attitude had a very commendable effect on curriculum-making. For example, the work of the 1893 and 1895 committees of the National Education Association gave little thought to what would be most realistic for the education of children. After 1915, however, various committees accepted Spencer's criterion of *social utility*: nothing was to be included in the *minimal* program of the elementary school that did not have some bearing on preparation for successful adult life.

Under the philosophic spell of Herbert Spencer, American educators inaugurated the hunt for minimal essentials,²⁰ which were at first selected without sufficient evidence. Furthermore, some teachers and supervisors thought that the essentials were to be vigorously drilled into students. This was a total misunderstanding of the Spencerian objectives and of the associationist learning theory with which the Spencerian objectives were coupled. Both Spencer and Thorndike disapproved of rote memorization and dreary recitation as a steady educational diet. Actually, the science movement arose as a revolt against faculty psychology. The patient work of E. L. Thorndike, G. M. Wilson, Ernest Horn, and many others, which

¹⁸ In Chapter 11 the authors undertake to propose the scientific and philosophic basis for the objectives this book recommends for the curriculum of the modern elementary school.

¹⁹ Compare Spencer's belief that education should function to advance self-preservation, the procurement of necessities of life, the rearing of children, social and political relations, and personal culture with the famous *Cardinal Principles of Secondary Education*, written by the Commission on the Reorganization of Secondary Education of the National Education Association. The Commission listed seven "cardinal" objectives of education: fundamental processes (the three R's, for example), health, home membership, vocational competence, citizenship, worthy use of leisure time, and ethical relationships. U. S. Bureau of Education, *Bulletin* 35, 1918.

Bobbit, Counts, and a host of others, writing on educational objectives, went along with Spencer in almost every detail.

²⁰ For example, between 1925 and 1928, the Department of Superintendence of the National Evaluation Association published four yearbooks dealing with minimal essentials.

resulted in the divising of sensible spelling lists, realistic arithmetic problems, and interesting primers and readers *with controlled vocabularies*,²¹ was done in part to avoid the errors intrinsic in dreary drill methods.

"ESSENTIALISM" VERSUS
"PROGRESSIVISM"

In 1925, the National Society for the Study of Education published one of its most interesting yearbooks, dealing with the foundations and techniques of curriculum-making. It was written by the Society's Committee on Curriculum-Making, of which Harold Rugg was director and William C. Bagley, George S. Counts, Ernest Horn, Charles H. Judd, and William Heard Kilpatrick were members.²² Some of these men (Rugg, Counts, and Kilpatrick) saw the curriculum against the background of a social order that was changing rapidly from an agrarian to an industrial culture. These men emphasized that the curriculum should be thought of in terms of the perspective, understanding, and interests of children. Others among them (Bagley, Judd, and Horn) were more alert to the usefulness of tradition and felt that the curriculum ought to be aimed at helping children to prepare for adult living by gaining possession of the accumulated wisdom of the centuries.

Both groups firmly declared themselves against parrot-like recitation, harsh discipline, and ignorance of scientific evidence on how children learn. The real difference between them was that the latter group was anxious to conserve the values created by civilization, while the former, though not rejecting that ambition, felt that civilization would be best preserved and most improved by aiding students to solve problems rather than to study the accumulated wisdom of the past. The group that emphasized the changing nature of society and man's role as a problem-solver felt that the curriculum had become a random miscellany of facts unrelated to the civic, artistic, and personal responsibilities of contemporary citizens. These men wished the schools to prepare students to work cooperatively with their fellows in solving the pressing problems of everyday life.

²¹ Edward Lee Thorndike, *The Teacher's Word Book*. New York: Teachers College, Columbia University, 1921; Edward Lee Thorndike and Irving Lorge, *The Teacher's Word Book of 30,000 Words*. New York: Bureau of Publications, Teachers College, Columbia University, 1944; Ernest Horn, *A Basic Writing Vocabulary: The Ten Thousand Words Most Commonly Used in Writing*. University of Iowa Monographs in Education, First Series, No. 4, Iowa City: University of Iowa, 1926; G. M. Wilson, *Survey of the Social and Business Uses of Arithmetic*. Contributions to Education, No. 10. New York: Teachers College, Columbia University, 1911.

²² The full membership of the committee included the names of William C. Bagley, Franklin Bobbitt, Frederick G. Bonser, Werrett W. Charters, George S. Counts, Stuart A. Courtis, Ernest Horn, Charles H. Judd, Frederick J. Kelly, William H. Kilpatrick, Harold Rugg, and George A. Works.

In the 1930's, Rugg, Counts, and Kilpatrick wrote voluminously on the duty of the schools to develop responsible citizens, to create a new social order, and to build an awareness of the need for cooperative planning within an interdependent and rapidly changing society. This emphasis was not evident in the later writing of the other group.

As already mentioned, the essentialists, with some modifications, were convinced that a realistic knowledge of man's cultural heritage was the most reliable guide for future action. In spite of this, the essentialists, no less than the progressives, looked to the future and were equally reform-minded. Judd advocated free-thinking and unfettered research. Bagley attacked isolationism and nationalism and pleaded for an end to dogmatic, narrow, and provincial thinking. Judd championed the cause of intellectual liberty; Bagley labored on behalf of cosmopolitanism and civilized, humane values.

In the field of psychology the two groups were poles apart. With their avid interest in planning, problem-solving, and meeting the emerging issues of a changing world, Rugg, Counts, and Kilpatrick evidently disapproved of associationism, feeling that it was valuable only in rote learning and not helpful to students in promoting social progress. They wanted activities that invited insight and understanding, especially of social issues.

The falling-out between progressives and essentialists came during the 1920's, partly as a result of a failure to communicate. Men in each group failed to see that a difference in degree or emphasis was not a difference in kind or in basic viewpoint. Bagley, Judd, and Horn feared that if the interests and activities of children were given paramount attention, teachers would not prepare units carefully. Horn, for one, had spent years evolving criteria for the selection of materials to be included in elementary-school books,²³ and did not wish to see his criteria lightly laid aside in favor of the transient interests of children. He could not accept the idea that the present concerns of a child should determine what the teacher teaches. As he put it, one should not teach a child as though he were going to die on his next birthday; *i.e.*, what a child learns at any moment should be pointed to what he will need ten, twenty, or thirty years hence.

²³ His report was published in 1918. Under Horn's stimulation, discussions were going forward all over the country on utilization of the criteria of social utility: frequency of use with attention to the social status of the user, cruciality, and universality in time, geographic location, and vocation. As these terms suggest, Horn found a place in the curriculum for only those ideas, skills, and abilities which could be known to be of great social use because they were crucial, universal, and frequently encountered in life outside the school.

See Chapter 11 for an attempt to make use of both the approach of Horn and that of the progressives in framing objectives for the curriculum and of the content of units.

The teacher must be a student of the physical and social environment and of human beings interacting within this environment. On this basis, teachers can build their units²⁴ and work to increase the knowledge of their pupils. Although the progressives and essentialists (under new names or without labels) fight on, today there is no valid reason for continuing the quarrel. The issues of the Twenty-sixth Yearbook of the National Society for the Study of Education are dead and should be buried, without, however, scrapping the insights of the combatants. Judd has shown us that education is more than the interaction of subject matter with children. As he painstakingly demonstrated, education is a process of becoming acquainted with a culture and with a society. Of course, Judd worked at a time when sociology and cultural anthropology were in their infancy, but he saw their potentiality as did other educators.²⁵ Sighting along the lines he defined, this book attempts to suggest what the social sciences have to offer an elementary teacher interested in the social foundations of the curriculum. Thus we ask that teachers take into account the social and cultural influences that play on students and on teachers.²⁶ In another context, we are found to be Spencerian in inquiring into the "social utility" of the newer natural-science courses of study.²⁷

Agreeing with Rugg, Counts and Kilpatrick that the survival of man calls for skill in human relations, we are vitally concerned about inter-group relations within the classroom, "integrative" teacher attitudes, and teaching for the advancement of original, creative, and critical thinking.²⁸ Reminded that the understanding of facts means the ability to use them, we urge that units of study make ample provision for critical reflection on the relations of man to man and of man to his physical and social environment. Mindful of Rugg's pleas for people able to express themselves imaginatively, we urge greater attention to an arts program in the elementary school.²⁹

Horn, Judd, and Bagley—along with other utilitarian realists who have succeeded them—have taught us to honor organization in study. While we are quite unwilling to disregard the perspective, interests, and abilities

²⁴ Chapter 12, "The Use of Units," deals with "units." The issue of "experience units," and "subject-matter units" is exhaustively treated in that chapter.

²⁵ As examples of the use of cultural anthropology by educators see: (1) George D. Spindler, editor, *Education and Anthropology*. Stanford, California: Stanford University Press, 1955; and (2) Theodore Brameld, *Cultural Foundations of Education*. New York: Harper and Bros., 1957.

²⁶ See Chapter 8, "Social Class and the Elementary School Curriculum."

²⁷ See Chapters 17 and 18 on Science.

²⁸ See Chapter 7.

²⁹ See Chapter 19, "Fine Arts and Crafts."

of children, we do want teachers disciplined in logical thinking, generously conversant with the arts and with science, and schooled at working with materials in ways that are realistic for youngsters.

Both essentialists and progressives have advocated these goals for the elementary schools, and the majority of sturdy, responsible, professional educators have endorsed them. We adopt them as the substance of our belief in education for human welfare.²⁰

This brief historical discussion may serve to illuminate some of the interesting issues that lie ahead. The most intriguing and challenging aspects of the study of curriculum are the rapid changes in emphasis that are constantly taking place as research continues to open up new and exciting possibilities for those who deal with children in the schools. The conviction grows that elementary education will continue to develop and refine its practices for many years to come.

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²⁰ See Chapter 11, "Curriculum Structure."

- Rusk, Robert R., *The Doctrines of the Great Educators*. (Revised and enlarged). New York: St. Martin's Press, 1954.
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³⁰ See Chapter 11, "Curriculum Structure."

Parents and teachers must share and compare their knowledge and make careful plans to adjust the educational program to the needs of the individual child. Such knowledge goes far beyond information about the child's "manners" or mastery of skills and subject matter: it involves the complex and intangible personality of the child.

When experienced teachers are asked to state the most difficult problems they face in the classroom, they emphasize those problems involved in adjusting the curriculum to the wide range of needs and abilities of individual pupils—how to motivate different pupils, how to find materials suited to the children's various levels of ability, how to differentiate assignments, how to make success possible for every pupil, how to diagnose and correct difficulties, how to present materials to different pupils, and how to test and evaluate achievement. As the teacher searches for the solutions to these problems, he continues to hope that some plan will be found to promote or to group children in classes in such a way that all members of each class are more or less alike in such things as abilities and interests. The difficulties in achieving this kind of uniformity in a classroom merit careful attention.

The phrase "individual differences" refers to the dissimilarity among the various members of a class or age group in any characteristic such as intelligence, reading ability, spelling ability, and the like; while "trait differences" refers to the variability of a single person with reference to abilities and traits such as his own relative standing in reading, spelling, arithmetic, music, and art. There are some erroneous beliefs and attitudes regarding individual and trait differences. The following queries suggest what some of these erroneous beliefs and attitudes may be.

1. Do grade levels signify rather definite levels of academic achievement?
2. In a typical first grade made up of six-year-olds, will there be children with mental ages below four years and others with mental ages above eight years, or, in a typical sixth grade, are there children with third-grade reading ability and others with tenth-grade reading ability?
3. Does a measure of intelligence, either I.Q. or mental age, indicate learning capacity in the various school subjects with a high degree of exactness?

4. Does the homogeneous grouping of pupils on the basis of general intelligence or general

DIFFERENCES



INDIVIDUAL AND TRAIT

It is approximately true to say that public education in the United States is "committed" to at least 12 years of schooling for all the children of all the people. In the first grade, as well as in high school, the potential unskilled laborer sits beside the potential surgeon. This fact sets the problem with which the public schools are grappling. In some schools, both may be required to read the same material, solve the same problems, and be evaluated according to the same standards, the result being that the maximum intellectual possibilities of the prospective surgeon are not stimulated and the prospective unskilled laborer is required to do work far beyond his capacity and is faced with daily discouragement and humiliation when he fails. The problem has been apparent for a long time, but most of the remedies proposed have been based on an inadequate understanding of the nature and extent of individual and trait differences, and of the factors that determine and influence these differences.

Although it is possible to overemphasize the importance of intelligence and achievement test scores in measuring individual and trait differences, it is more meaningful to describe some individual and trait differences on this basis. In a first-grade class made up of a random group of six-year-old children, 2 per cent of the pupils have mental ages of less than four years, and 2 per cent have mental ages of more than eight years. In other words, if we disregard the 2 per cent at both ends of the distribution and consider only the middle 96 per cent of the class, we have a four-year range in mental development.¹ If we administer tests designed to measure more specific traits, such as extent of vocabulary, acquaintance with the number system, reading readiness, and so forth, approximately the same range is found in these abilities as is found in intelligence. The various traits associated with educational achievement, measured at the six-year level, will show that there is a variability of four years between individuals at the 2nd and 98th percentile.

¹ E. F. Lindquist, ed., *Educational Measurement*. Washington, D.C.: American Council on Education, 1951, pp. 9-14; Quinn McNemar, *The Revision of the Stanford-Binet Scale*. Boston: Houghton-Mifflin Company, 1942, pp. 33-34.

Since the standard deviation of I.Q.'s for an unselected population is 16 I.Q. points (Lewis M. Terman and Maud A. Merrill, *Measuring Intelligence*. Boston: Houghton-Mifflin Company, 1937, p. 40), we know that the individual at the second percentile will have an I.Q. of 68. If this I.Q. of 68 is divided by 100, it becomes .68, which means that the second percentile individual is developing .68 as rapidly as the normal individual. Hence, by multiplying .68 by any given chronological age, we find the mental age of the second percentile individual of that age. For example, six-year-olds, $6 \times .68 = 4.08$. This means that the second percentile six-year-old has a mental age of 4.08 years.

achievement materially reduce the range of specific abilities in the classroom?

5. Should a teacher be criticized for promoting a pupil who is not able to do the work for the next grade?

6. Should the course of study for a given grade be administered to all pupils?

7. Does the promotion of all pupils, regardless of achievement, increase the variability of achievement in the upper grades?

8. Does universal promotion tend to lower the average achievement levels of the various grades?

9. Does the threat of failure cause pupils to work harder?

10. Does a non-promoted pupil of low ability achieve more in the end than he would had he been regularly promoted?

11. Do uniform textbooks and workbooks in the hands of all pupils constitute adequate instructional materials?

12. Is the chief value of having the school furnish all instructional materials that it enables the school to furnish each child with materials adapted to his abilities, interests, and levels of achievement?

13. When teachers are under pressure to pass as many of their pupils as possible, do they set examinations and learning goals that depend largely upon memory and neglect goals involving relational thinking, problem-solving, and creative endeavor?

14. Can the same learning goals be set for all pupils?

15. Can the grade levels for teaching certain knowledges, skills, and abilities be determined with a high degree of specificity?

16. Should elementary teachers consider themselves as highly specialized at a given grade level, for example, skilled as a first-grade teacher but not as a fifth-grade teacher?

17. Is it more important for the teacher to know the subject matter at a given grade level than to know the pupils?

18. Should the number of pupils in a class influence possible teaching procedures?

19. Should individual differences be accepted as desirable in the scheme of things or as something undesirable, to be overcome?

20. Do you accept the dictum, "Provide for individual differences and bring all students up to standard"?

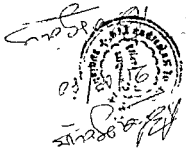
THE EXTENT OF INDIVIDUAL DIFFERENCES IN THE ELEMENTARY SCHOOL

Obviously our civilization requires the combined services of unskilled laborers, janitors, truck drivers, assembly-line workers, college professors, research specialists, industrial managers, lawyers, surgeons, and many others. There are approximately 30,000 different job classifications in the Department of Labor's *Dictionary of Occupations*. How fortunate it is that men are born with potentialities for the various abilities, interests, and temperaments necessary to fill these different jobs with more or less success, satisfaction, and happiness.

standardized intelligence and achievement tests are administered. They have far-reaching implications for curriculum organization and design. These implications will be outlined in detail in later chapters, but now, for the sake of contrast and hence for clarity as to desirable practice, we should consider briefly how the graded elementary school in the United States has, in the past, dealt with the problem of individual differences.

THE GRADED ELEMENTARY SCHOOL

The traditional



the United States is a graded school based on the faith that all men are equal and have little knowledge of the nature of things. It developed when nothing was known and no nation knew that the education of a democratic form of government was necessary. Resources were meager, money was scarce, and teachers were few.

In the early period, the schools had been designed on the individual design. Each pupil progressed at his own rate, reciting individually. By 1840. These changes came about through educators who had gone abroad and had seen what was being carried out in Germany because they shaped the education of the many of the new state con-

ditionally impressed by the organization of the German *Volksschule*, in which all German children not only received a *Volksschule* teachers were

By 1870, the elementary schools of the United States, even the one-room rural schools, had been graded, along with the teachers, textbooks, and, in the cities, the school buildings. Normal schools teaching the techniques of mass instruction were established to train eighth-grade graduates who aspired to become teachers. In addition, the positions of city, county, and state superintendent had been created to set up courses of study, approve textbooks, hire teachers, and coordinate the machinery of education.

In the latter part of the nineteenth century, a superintendent was prone

When we examine the variability in intelligence and achievement of children at the end of the sixth grade or at the beginning of the seventh grade (twelve-year-olds), we find it to be twice what it was in the first grade (measured in age units). At this level the range of intelligence and achievement (2nd to 98th percentile) is between seven and eight years. This has been found true in the achievement areas of reading comprehension, vocabulary, the mechanics of English composition, literary knowledge, science, geography, and history. In arithmetic reasoning and computation the range is slightly less, between six and seven years at the sixth-grade level.

Perhaps the most effective way of revealing the range of ability and achievement in the various subject areas of the elementary school is to present it graphically. Figure 1 shows the overlapping in grade achievement of two typical eight-grade elementary schools, one with a high rate, the other with a low rate of retardation. It will be noted that the grades are most homogeneous with respect to chronological age and mental age.² A study of Figure 1 reveals the following facts: (1) The chronological age distributions of the two schools is almost identical in the first two grades, but beginning with the third grade there is progressively more retardation in one of the schools. (2) The least variability in achievement is found in arithmetic, with a range of six years in the fourth grade, extending to eight years in the eighth grade. (3) In the mechanics of English, reading comprehension, science, geography, and history, almost the complete range of elementary-school achievement is found in each grade above the primary. (4) The mean achievement in the school with the low retardation rate is significantly higher than in the school that retains the low-ability pupils longer. (5) The range of achievement in the various grades with which the teacher must cope is not significantly different in the two schools. (6) The low achievers in any four or five successive grades have more in common with one another than they have with the average achiever in their own grade; likewise, the high achievers in four or five successive grades have more in common than they have with the average achiever in their own grade. (7) If the low achievers in the eighth grade were demoted to the fourth grade they would, in most instances, be below the average achiever of the fourth grade.

Conditions similar to these will be found in any school system when

² Mental age was measured with the *Kuhlman-Anderson Intelligence Test*. This test yields a narrower range of mental ability at age and grade levels than the *Revised Stanford-Binet Tests of Intelligence*, probably because only ten tests of a possible 39 in the entire scale are given to any grade. The test manual cautions against this practice, but the cautions are rarely heeded. The use of the median mental age on the ten tests instead of the mean also tends to reduce the variability. Achievement was measured with the *Unit Scales of Attainment* battery.

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THE GRADED ELEMENTARY SCHOOL

The traditional public elementary school in the United States is a graded school. It was conceived and established in the faith that all men are created equal. Its designers, however, had little knowledge of the nature and extent of individual and trait differences. It developed when nothing better was possible. The citizens of the young nation knew that the education of all youth was essential to the preservation of a democratic form of government. Families were large, economic resources were meager, money for schools was hard to get, and competent teachers were few.

During the colonial and early national period, the schools had been essentially ungraded schools, tutorial in design. Each pupil progressed through the few textbooks available at his own rate, reciting individually to the teacher. Changes were made after 1840. These changes came about as a result of reports made by American educators who had gone abroad to see and study educational experiments that were being carried out in Europe. These reports had lasting effect because they shaped the educational provisions that were later written into many of the new state constitutions.

The educators visiting abroad were particularly impressed by the organization and teaching procedures that they found in the German *Volksschule*, a graded, eight-year elementary school in which all German children not of the upper classes were educated. Prospective *Volksschule* teachers were selected from the school's own graduates and sent to a Teachers' Seminary for two years of training. Our early normal schools were patterned after the Teachers' Seminaries of Germany and our graded elementary schools after the *Volksschule*.

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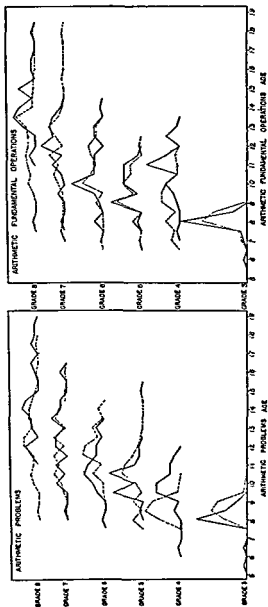
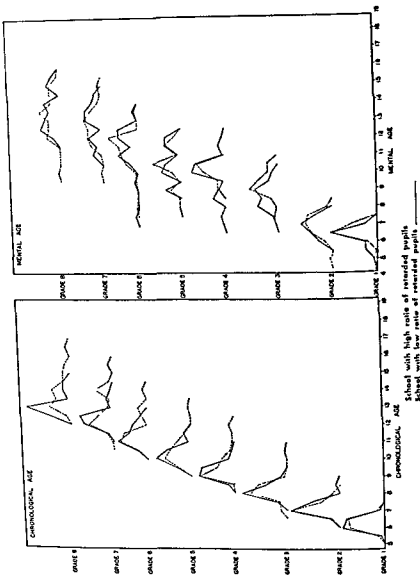
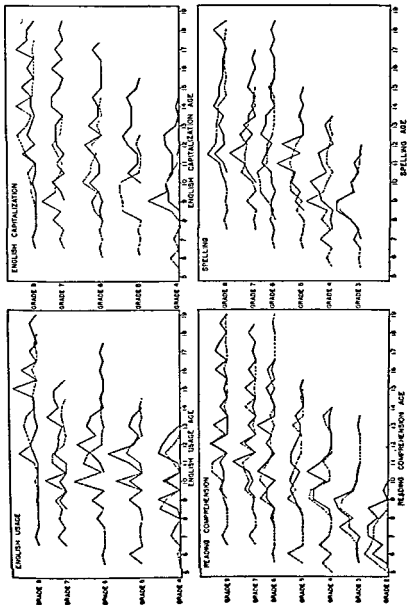


Figure 1. Variability in chronological age, mental age, and achievement ages of pupils in two eight-grade elementary schools, one with a high rate of retardation, the other with low rate of retardation. Frequencies computed as per cent of class at each age level.





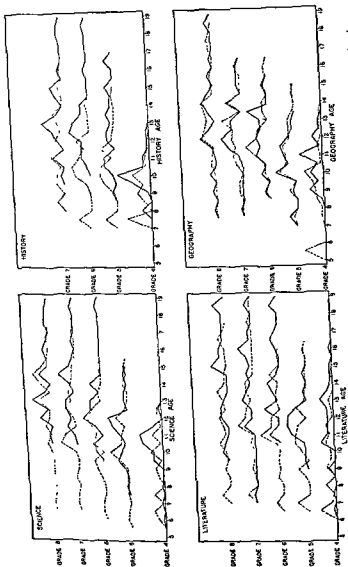


Figure 1 (continued). Variability in chronological age, mental age, and achievement ages of pupils in two eight-grade elementary schools, one with a high rate of retardation, the other with low rate of retardation. Frequencies computed as per cent of class at each age level.

the major educational problem. In some schools the failure rate reached 50 per cent, and adolescent boys and girls were frequently retained in the primary grades. Numerous panaceas for this situation were introduced and tried between 1875 and 1925. It was natural that changes in promotional policies should be suggested first.

When it appeared that failing a pupil for a year was too severe, semi-annual promotion, quarterly promotion, subject promotion, and special promotion were tried in different school systems. Then it was found that as the effects of non-promotion were made the less severe, the more often teachers resorted to its use. Semiannual promotion to a new room and a new teacher is still the policy in some schools. Its practice requires the teacher to learn the characteristics and needs of two classes each year instead of one, as under the annual promotion plan. Other remedies attempted to hold grade standards constant. In this approach, "assisting teachers" were appointed and vacation classes organized to increase the amount of instruction for slow-learning pupils. In some cities even today failing students are required to attend summer school. Another remedy was to hold the course of study and grade standards constant, and differentiate the time required to complete the elementary school—six years for the bright, seven for the average, and eight for the slow learners. Still another remedy limited the time spent in the elementary school to eight years, but differentiated the curriculum for slow, medium, and fast-learning pupils. Other plans divided the course of study in each skill area into units of specific activities and achievements, permitting each pupil to advance at his own rate in each skill, with group instruction being offered in the content areas of the curriculum. Several of these plans required that pupils be classified by their teachers into slow, medium, and fast-learning groups, the ability of teachers to make such an arrangement not being seriously questioned at the time.

A LIMITATION ON THE EFFECTIVENESS OF GENERAL-ABILITY GROUPING: TRAIT DIFFERENCES

Following World War I, the rapid development of group intelligence and achievement tests suggested the practice of general-ability grouping to meet the individual needs of children. This plan was used on a large scale in the schools of Detroit in 1920. In that year 10,000 pupils entering the first grade were sectioned into three groups on the basis of scores they had made on a group intelligence test: the upper 20 per cent were designated as the X group, the middle 60 per cent as the Y group, and the lower 20 per cent as the Z group. The course of study was differentiated to provide the best possible experiences for each level of ability.

to think he had a well-organized school system when he could take out his watch at ten o'clock on Monday morning, October 13, and say to his visitor, "The fourth-grade classes in every school in this city are at this minute beginning instruction in the division of whole numbers with single digit divisors, and the problem that is being presented is 24 divided by 2." The straight lines and lock-step procedure by which children entered and left the school building, the rigid attention, the harsh discipline, the pin-dropping atmosphere, the class lined up at attention, eyes right and heads snapping forward as each one recited in turn, were reflections of the *Volk-schule* upon which our schools had been patterned.

Perhaps a clearer conception of what this type of schooling is like, its essentially mechanical nature, its disregard for individual differences, can be realized by comparing it with an assembly line in an automobile plant. Of course, the most mechanical teaching in the world may be softened by a kindly manner, but there is some real similarity between the assembly line in a factory and unimaginative teaching. In a factory the chassis of a car is placed on a moving belt, approximately a half mile in length. On each side of the belt specialists stand, each responsible for attaching some part of the car. At the end of the line the car moves off under its own power, assembled by a group of workers, each with a minute task to perform, no one person on the assembly line having responsibilities requiring insight into the finished product or needing abilities approaching those of a mechanical engineer. Great credit is given the production engineers who first conceived the mass-production assembly line, though its psychological by-products are now being questioned by industrial management. The educators who first conceived the graded school anticipated the industrial production line by more than 50 years. In the assembly-line graded school, the six-year-old comes first into the province of the first-grade teacher, who is responsible for attaching certain specified knowledge, skills, attitudes, and abilities. He then moves on to the second-grade teacher, who again attaches certain knowledge, skills, attitudes, and abilities. By the time he reaches high school, the assembly-line workers are more specialized; one teacher is responsible for certain knowledge, skills, attitudes, and abilities in English, another in mathematics, another in social studies, and so on. Perhaps if children were as uniform in their aptitudes, interests, and abilities as steel is in its physical properties, such a school could be defended.

EARLY REMEDIES FOR UNEVEN EDUCATIONAL PROGRESS

Achievement standards required for promotion were determined subjectively by the authors of the graded textbooks and courses of study. Promotion policies were strict, and soon "laggards in our schools" became

areas of the curriculum, general-ability grouping, if perfectly done, still would not reduce the variability of classes more than 20 per cent. That is, we should anticipate an overlapping of approximately 80 per cent between the X and Z groups in most subjects.

A more direct attack on the question of how the variability of elementary-school classes can be reduced through general-ability grouping has been made by Hollingshead⁶ and Burr.⁷ Hollingshead was concerned with determining the best measure of general ability for classification purposes. Educational achievement test batteries were found to be the most effective basis for grouping. Burr attempted to determine the extent to which general-ability grouping reduces the range of ability of classes in reading and arithmetic. The variability of the typical X, Y, and Z section in reading and arithmetic was found to be approximately 80 per cent of the total grade range. That is, there was in general an overlapping of 80 per cent between the extreme X and Z sections. Individual pupils were found to be so complex that when sections were made non-overlapping in one phase of a subject such as arithmetic reasoning, they overlapped greatly in another phase such as arithmetic computation.

The important generalization to be drawn from studies of trait variability is that instructional groups formed by general-ability grouping are not sufficiently homogeneous, with reference to achievement or learning capacity in the various curricular areas, to warrant designing a curriculum for uniform mass-instruction procedures. For example, a typical sixth grade will show a range of almost eight years in reading ability. After X, Y, Z sectioning on the basis of educational age, each section will still show a range of from five to seven years. Thus, even when grouping is practiced, the teacher must adapt the curriculum to the individual child and must know his particular and immediate learning problems. The obligation of the school to furnish instructional materials with a range of difficulty commensurate with the range of ability in a class and to individualize instruction is just about as great when general-ability grouping is practiced as when it is not. General-ability grouping should *not* be confused with grouping for instruction in specific learning areas. If children are divided into small groups to work on various units and parts of units, the possibilities of caring for individual differences are enhanced. In Chapter 20, a desirable and necessary type of grouping will be described, and in the last three chapters of the book, illustrations of desirable types of groupings will be given.

⁶ A. D. Hollingshead, *An Evaluation of the Use of Certain Educational and Mental Measurements for the Purpose of Classification*. Contributions to Education, No. 302. New York: Teachers College, Columbia University, 1928.

⁷ Marvin A. Burr, *A Study of Homogeneous Grouping*. Contributions to Education, No. 457. New York: Teachers College, Columbia University, 1931.

This practice of grouping pupils according to some measure of general ability (intelligence, general achievement, teacher opinion, or a combination of these) was extensively adopted in other cities. The extent to which courses of study were modified to meet the needs of the hypothetical slow, average, and bright pupil varied from school system to school system, as did the proportion of pupils placed in the different groups. Soon a lively debate was being carried on in the leading educational journals of the day as supporters and critics of the new system argued their respective points on educational, philosophical, sociological, and psychological grounds.³ For a time everyone seemed to assume that the pupils really were grouped according to ability—that the groups were homogeneous. Little attention was given to the question of whether general-ability grouping reduced the variability of instructional groups in the specific subject areas of reading, arithmetic, spelling, music, art, and the like.

General-ability grouping is based on the hypothesis that trait differences may be ignored, that all traits with which the school is concerned are highly correlated, and that mental functions are organized around a predominating general factor that determines the general-competence level of the individual. In other words, the theory was that if a child was high, or low, or average in reading, he would be high, low, or average in arithmetic, in geography, in art, and in everything else—all because he was high, low, or average in general intelligence. Evidence from several overlapping fields of psychology tends to refute this hypothesis. This research is well summarized by Anastasi and Foley.⁴ For our purposes, the conclusions based on Hull's⁵ study of the variability in amount of different traits possessed by the individual are appropriate. His subjects were 107 ninth-grade boys to whom he administered 35 psychological and educational tests involving a wide variety of traits. Hull concluded that trait differences in the typical student in this group were 80 per cent as great as individual differences in the total group, that trait differences are normally distributed, that trait variability is twice as great in some individuals as in others, and that no relationship exists between the individual's general level of ability and the extent of his trait variability. If we assume that the traits measured by Hull are representative of the traits responsible for achievement in the various

³ *Thirty-fifth Yearbook of the National Society for the Study of Education, Part I, "The Grouping of Pupils,"* 1936, *Twenty-fourth Yearbook of the National Society for the Study of Education, Part II, "Adapting the Schools to Individual Differences,"* 1925. Bloomington, Illinois: Public School Publishing Company.

⁴ A. Anastasi, and John P. Foley, Jr., *Differential Psychology*. New York: The Macmillan Company, 1949, Chapters 14 and 15.

⁵ Clark L. Hull, "Variability in Amount of Different Traits Possessed by the Individual," *Journal of Educational Psychology*, Vol. 18, 1927, 97-104.

ability pupils in the schools with high rates of retardation tended to keep the variability of the classes large in spite of efforts to maintain standards. Pupils were rarely failed more than twice in the same grade and eventually reached the upper grades. The relatively high proportion of retarded pupils increased the range of ability found in classes in the schools with high failure rates.

When the achievement of pupils of the same chronological and mental ages in the two groups of schools was compared, there was no difference. This indicates that the schools were well matched and also that the constant threat of failure did *not* increase achievement in the schools with high rates of failure, and that non-promotion actually tends to reduce grade standards without alleviating the problem of the range of ability.

A considerable amount of substantiating evidence for these findings is available in books and journals in the educational field. If pupils were all promoted regularly, each grade would represent an age group: first-graders would be all six-year-olds, second-graders seven-year-olds, and so on. Hence it is possible to know what variability of classes would be produced by universal promotion. In the standardization of the *Stanford-Binet Tests of Intelligence*, both in 1916 and 1937, comparisons were made between the variability of age groups and grade groups (the median range of chronological age in the grade groups was six years). The conclusion was reached that age groups were no more variable than grade groups and that the problems of the teacher in meeting the needs of individual pupils would be no greater if universal promotion prevailed.⁹

Cornell has reported the variability of New York State school children in intelligence and achievement at three age levels—seven, ten, and fourteen. After comparing these age data with grade data from two previous studies by Coxe, Cornell concluded that, "both the range of the middle 50 per cent and the total range show no marked difference in favor of either age or grade groups. For practical purposes of classification, then, we could deal with an age group without any more difficulty due to diversity than we find in a grade."¹⁰

We are forced to conclude that it is impossible, in the public schools that all children attend, to reduce the variability of instructional groups significantly through promotion policies. If strict standards of promotion are followed, the efficiency of the school is reduced through the accumulation of low-ability pupils and the lessening of educational opportunities for the more able.

⁹ Quinn, McNemar, *The Revision of the Stanford-Binet Scale*, pp. 23-25.

¹⁰ Ethel L. Cornell, *The Variability of Children of Different Ages and Its Relation to School Classification and Grouping*. University of the State of New York Bulletin, No. 1101, Educational Research Studies, No. 1, 1937.

CAN PROMOTION POLICIES SIMPLIFY
THE PROBLEM OF MEETING THE NEEDS
OF INDIVIDUAL CHILDREN?

Teachers and school officials frequently attribute the wide range of ability found in classes to lax promotion policies in the lower grades. Their arguments seem reasonable enough at first thought. They maintain that the practice of promoting almost all children regardless of achievement has been adopted by the elementary school as a means of hiding its failures and of keeping parents and children happy. What is needed, some critics insist, are meaningful grade standards that signify definite stages of educational development to which a pupil must attain before he is promoted. It is dishonest, they say, to promote pupils who have not earned a promotion. They assume that pressure and "discipline," if more rigorously applied would result in almost all pupils reaching a respectable standard; and that teachers, by bringing all pupils up to standard, would thus provide for individual differences. According to their argument, pupils of low achievement who are promoted are hurt more than they are helped because they suffer emotionally as they drop further and further behind the rest of their grade. They become discouraged, quit trying, and learn that they can "get by" without effort.

An investigation reported by Cook⁸ tests several of these arguments on the basis of complete test records for 148 Minnesota school systems. These systems were first ranked on the basis of retardation. Then nine systems that approached the universal promotion end of the distribution were matched with nine systems that tried to maintain rigorous standards of promotion by failing many pupils who seemed unable to meet the "standards" set for their grades. Matching was on the basis of type of community, size of school systems, socio-economic status of parents, and professional qualifications of teachers. It was found that schools that had relatively few failures and approached the universal promotion end of the continuum had significantly higher achievement and intelligence scores than those with many failures and much non-promotion.

The range of ability (2nd to 98th percentile) at the seventh-grade level of the two groups of schools also was compared. Eleven measures of achievement in addition to intelligence were available. No significant difference was found in the variability of the classes in the two groups. Thus, though there was higher achievement in classes where there were fewer failures, we see here that the size of the range between the high and the low achievers is the same for both groups. The higher proportion of low-

⁸ Walter W. Cook, "Some Effects of the Maintenance of High Standards of Promotion," *Elementary School Journal*, Vol. 41, February 1941, 430-437.

has been well summarized by Anastasi, Peterson and Barlow, and Reed.¹¹ Many technical problems are involved in the accurate interpretation of this research, but for our purposes the following generalization is warranted: If the responses to be learned are sufficiently simple, and if the goals that have been set are so limited that a high proportion of the group can master them during the period of learning, the variability in the learning of the group becomes less; if the task is complex and the goals unlimited, so that the abilities of the most apt members of the group are taxed during the period of learning, then the variability in the learning of the group increases.

That is the conclusion Mattson¹² reached in a study conducted to determine whether, for a given motor skill, degree of complexity of a task bore any relationship to the level of functioning attained through practice. She concluded, "The general trend of these data lends support to the theory that practice decreases differences in simple tasks and increases differences in complex tasks."¹³ Hence, if the goals of a grade are sufficiently limited, the group can, through instruction, become homogeneous with respect to these goals, but if the goals are sufficiently difficult to tax the capacity of the superior individuals, the variability of the group will increase during the period of instruction. For example, a fourth-grade class may become homogeneous with respect to ability to recite a short poem, but in ability to comprehend or appreciate poetry the variability of the class will increase.

Unfortunately, when limited goals are emphasized in order to pass all pupils in a class, what is learned is frequently of little value and is retained for but a short time. Only rote memory, a low-order mental process, is required to pass the *name, describe, define, who, what, where, and when* type of examination by which achievement is measured. Investigations in various areas of the curriculum to determine how well a student can do on a final examination when it is repeated from three months to three years after a course is completed reveal that from 40 to 80 per cent of the information required by the final examination is lost. The forgetting curves for this material closely approximate those for nonsense materials, indicating that much of what is learned for examination purposes is no

¹¹ A. Anastasi, "Practice and Variability: A Study of Psychological Method," *Psychological Monographs*, Vol. 45, 1934, 1-55; J. Peterson and M. C. Barlow, "The Effects of Practice on Individual Differences," *Nature and Nurture: Their Influence upon Achievement*, Twenty-seventh Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 1928, 211-230; H. B. Reed, "The Influence of Training on Changes in Variability in Achievement," *Psychological Monographs*, Vol. 41, 1931, 1-59.

¹² Marion L. Mattson, "The Relation Between the Complexity of the Habit to Be Acquired and the Form of the Learning Curve in Young Children," *Genetic Psychology Monographs*, Vol. 13, April 1933, 299-398.

¹³ *Ibid.*, p. 378.

**CAN EFFECTIVE TEACHING MAKE
CLASSES MORE HOMOGENEOUS
IN ACHIEVEMENT?**

Many teachers believe that the wide range of achievement found in each grade is the result of poor teaching. "Too many teachers," they say, "are not willing to sacrifice the time and energy required to bring their classes up to a respectable minimum standard. Of course there are great differences in children, but if teachers will provide for these differences, be willing to give the slow learners extra help, have them work after school, give them more homework, and provide vacation classes, almost all pupils can reach a respectable standard."

The teachers who take this point of view are usually experienced, conscientious teachers, but frequently have very definite and very limited teaching goals. Such teachers know, or think that they know, quite exactly the experiences that fifth-grade pupils, for example, should have, the questions they should be able to answer, and the problems they should be able to solve. There is a list of words that must be spelled with at least 75 per cent accuracy; certain problems in addition, subtraction, multiplication, and division of fractions should be solved by a definite procedure. Pupils must know the fifty states and their capitals; the chief characteristics and products of the principal cities of the United States, the names and discoveries of early explorers; the causes, results, principal campaigns, and generals of each war in which the United States has participated; and similar specific items of information. Success in achieving these goals depends largely upon memory. If a fact or a process or a relationship cannot be understood, at least it can be memorized.

Information is thus substituted for education. Pupils get the idea that learning consists of memorizing the content of textbooks; they read to remember, not to understand. In such a scheme of education, little or no attempt is made to teach children to organize and integrate ideas, to see relationships, to draw inferences, or to make applications of what they have learned to new situations. The goals set by such teachers can be achieved by the majority of the class. The superior pupils can do it with ease, but they are bored and waste much of their time; the slower pupils do it with difficulty and work extra hours. But with respect to the limited goals, relative homogeneity may be attained in the group.

The problem with which we are dealing is concerned basically with the effect of a period of learning upon individual differences. Are pupils more alike or less alike with respect to a given ability after a period of instruction? Does good teaching decrease or increase the variability of the class? A considerable amount of research on this question has been published. It

social groups, these abilities will be retained. The student will recognize that these statements are approximately true and that the learnings mentioned represent some of the most important results of education.

It is suggested then that the emphasis some schools place on striving for homogeneity in classes, getting pupils over the passing mark, and trying to provide for individual differences by bringing all pupils up to a standard, encourages teachers to set limited goals for instruction and results in temporary factual learning involving mainly memory, a low-order mental process. When the ultimate goals of education, involving the higher mental processes and permanent learning, are striven for and each pupil is stimulated to capacity effort, the variability of instructional groups increases.

MEETING THE NEEDS OF CHILDREN IN THE HETEROGENEOUS GROUPS

Materials presented up to this point in this chapter were selected to reveal the extent and nature of individual and trait differences and the general effect of educational experiences upon them. It was shown that in the first grade the typical range of ability in important educational traits is four years. In the sixth grade it approaches eight years. Administrative, supervisory, and curricular practices in the traditional graded elementary school have tended to ignore these facts. For the past century, educational experts have been trying to find some procedure for making instructional groups homogeneous, thus making possible the mass instruction of large classes and the use of uniform textbooks, uniform instructional procedures, and uniform standards of achievement. The object in most of this was to find a way to educate as many children as possible with a minimum expenditure of money. We have seen that most of the educational devices and procedures directed to this end have sprung from misconceptions regarding the facts and have oversimplified the problem. We have seen that the homogeneity of groups sufficient for uniform standards, materials, and procedures probably is unattainable. Certainly such groups cannot be achieved through general-ability grouping, judicious policies of promotion, or effective teaching. What then should be done? *Simply this: Accept the wide range of ability found in all classes as inevitable, accept it as something good, highly desirable, and necessary in this scheme of things. Then set about to find effective ways of meeting the individual needs of children in heterogeneous groups.* Modern educational thinking is quite largely devoted to this objective. It involves many modifications in administrative and curriculum policies, modifications that will be outlined in following chapters.

At various points throughout the remainder of this book, references will be made to the data presented here on individual differences. The signifi-

better organized, no more meaningful, no more useful to the pupil than are nonsense materials

The relative permanency of different types of learning has been investigated by Tyler¹⁴ and Wert.¹⁵ In Tyler's study, a test in zoology measuring five objectives was administered to 82 students at the beginning of the course, and again 15 months later. Percentage of loss or gain on each of the five parts of the test during the 15-month period was computed in relation to the amount gained during the course. On the part of the test requiring (1) names of organs identified from pictures, the loss was 22 per cent, (2) recognition of technical terms, the loss was 72 per cent; (3) recall of facts, the loss was 80 per cent; (4) application of principles to new situations, there was no loss or gain; (5) interpretation of experimental data, new to the students, there was a gain of 126 per cent. Wert's experiment measured percentage of loss or gain over a period of three years in relation to the amount gained during the course. A gain of 60 per cent was found in application of principles to situations new to the student, a gain of 20 per cent in interpretation of new experiments. There was a loss of over 50 per cent in terminology, function of structures, and main ideas; and a loss of over 80 per cent in associating names with structures.

These experiments indicate that, in general, learning that involves problem-solving relationships and the operation of the higher mental processes is relatively permanent, whereas learning in which unrelated facts and mere unorganized information is involved is relatively temporary. Unless learning involves differentiation and integration of old and new behavioral responses into a meaningful and purposeful problem-solving type of mental process or into an organized behavioral pattern, it has little permanence or value. *How it was learned* determines the usefulness of learned behavior.

In thinking of the permanent results of his own educational efforts, the student may think in the following terms. If he has developed a usable vocabulary, it will remain with him. If he has developed the ability to read literary materials, or science materials, or social science materials, at a given level of difficulty, with a given degree of comprehension, he will not lose this ability. If he can solve complex reasoning problems in arithmetic or mathematics, this ability will not deteriorate. If he has developed the ability to write effective business letters or interesting personal letters, to think on his feet and speak effectively to a group, to use the library and basic reference materials, to organize ideas for effective presentation, to conduct a meeting, to get along with people, and to maintain harmony in

¹⁴ R. W. Tyler, "Permanency of Learning," *Journal of Higher Education*, Vol. 4, 1933, 203-204.

¹⁵ J. E. Wert, "Twin Examination Assumptions," *Journal of Higher Education*, Vol. 8, 1937, 136-140.

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cance of the existence of these wide differences in human characteristics will become increasingly clear, and will be illustrated by actual classroom examples in the final three chapters. The real implications for those who plan curriculums and for the teachers who use curriculums were not seen so long as major attention was devoted to overcoming individual differences. Now that we know we cannot wipe them out by any educational magic, we can proceed to take them into account.

• Discussion Questions

1. Answer now the twenty questions asked at the beginning of Chapter 3.
2. Indicate the questions to which your answers have changed most as a result of reading Chapter 3.
3. Indicate the questions on which you would like to have additional information and class discussion.
4. With reference to the elementary school that you attended, what changes in organization, administrative procedures, instructional materials, and equipment would you recommend in order to meet more adequately the educational needs of children?
5. If we assume that in the first grade there is a range of four years and in the sixth grade a range of eight years in the various areas of educational development, what characteristics must the curriculum have to meet adequately the varying needs of the children? List as many suggestions as possible.
6. If children were admitted to the first grade in terms of mental development, what would be the typical range in chronological age of this grade? Who would learn most rapidly, the younger pupils or the older pupils? What would be the achievement status of the older and younger pupils at the end of the first grade?
7. If it is inadvisable to admit children to school regardless of age, whenever they reach a certain stage of mental development, is there any logic in promoting them from grade to grade on this basis?
8. In most grades the youngest pupil is the brightest and the oldest pupil is the dullest. What are the undesirable features of this situation? How can it be avoided? Will your remedy tend to increase the range of ability in the various grades?

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Children have a natural interest in anatomy: they are curious about the structure and function of their own bodies. This basic motivation explains the enthusiasm with which most of them approach the study of a skeleton. Here is visible proof of the importance of good posture, care of the teeth, and proper nutrition.

Motivating educational behavior is the process of making those activities and experiences in which the child engages under the direction of the school satisfying to the child. A motive stimulates and alerts the organism for action, initiates and directs activity into more or less definite channels, and sustains that activity to a more or less satisfying end. A motive is also a consciously sought goal of behavior. The well-motivated child is one who wants to do things, persistently tries to do things, and progressively improves his methods of doing them. The problem in curriculum development is to motivate the child along lines that are educational in nature. There will be as wide differences among the free motives of a group of children as there will be among any of their other intellectual or emotional traits.

The urge to get a satisfying grade in a final examination (the grade that will satisfy depends upon the student's level of aspiration) is sometimes given as an example of a motive. As students prepare for, take, and review their examination, this motive stimulates them; it initiates, directs, sustains, and also selects behavior. If the future conduct of the individuals is thus influenced in a socially desirable direction, then an educational experience is motivated.

But for those students who fail the examination or do more poorly than anticipated, the anxiety state remains. It is important to understand that the examination is but one episode in a whole pattern of activities designed to satisfy the basic needs of the students. For example, why do young people want to pass the examinations that will enable them to become teachers? Is it because they feel it will give them social prestige and status? Is it because it will place them in a position to attract a more desirable mate? Is it because it will enable them to serve society in a significant way? Is it because it will give them economic security in the form of tasty food, attractive clothing, comfortable shelter, and flashy transportation? Is it because opportunities for travel, reading, study, and other forms of new experiences will be enhanced? Is it because they like people and love to work with chil-



MOTIVATING EDUCATIONAL

route, sell more papers, make more money, and eventually buy a trumpet and join the school band. Or he may be saving toward a college education. The people with whom he lives and comes in contact may plan their lives ahead in just such a way, and to act as they do probably bolsters his self-esteem.

In the intermediate grades it is possible to plan and organize activities in connection with learning units on a fairly long-range basis, thus avoiding the necessity for frequent planning periods. As far as primary-grade pupils are concerned, however, short-range and intermediate goals, and more frequent planning are necessary.

RICH ENVIRONMENT DESIRABLE BUT NOT SUFFICIENT

It is the teacher's responsibility to set up goals for the children and maintain a continuity and sequence of activities so that the total process motivates and directs each part, gives it purpose and meaning, and leads to the satisfaction of basic needs. It is not enough that children find themselves in an environment that offers many possibilities for need-satisfying activities. They need help in the accomplishment of a satisfying achievement.

For example, the teacher may suggest a form of government for the classroom in which monthly elections are held and everyone gets a chance to hold some office. As each child is elected and serves, his self-respect and self-confidence will increase.

Or, let us take an individual case. John is not taking part in student activities; he feels neglected and left out of things. His teacher knows that John has some musical ability and feels that playing in the band would give the boy the assurance he needs; but his parents cannot afford to buy him an instrument. The teacher helps John plan. With her aid he finds work in a grocery store on Saturdays, saves money for an instrument, takes music lessons for six months, and gets to play in the band and wear a uniform.¹ His indifference has been successfully overcome. The teacher helps the child by suggesting a series of activities that lead from an unhappy situation to a satisfying one through educational experiences. The teacher is the most important figure in any educational situation.

NEEDS VERSUS DESIRES OR WANTS

The word "needs" is frequently used to mean many things in books and journals dealing with education. It is important, here, that we clarify our meaning of it. A *need* is the lack of something that, if present, would further the welfare of the individual. The person may or may not be aware of

¹ Herbert F. Wright, "How the Psychology of Motivation is Related to Curriculum Development," *Journal of Educational Psychology*, Vol. 39, March 1948, 149-156.

dren? Is it because learning is a fascinating enterprise for them? Perhaps all these are more or less involved in the examination incident.

Motive as part of an activity in process. The examination is but an episode in the process of going to college to prepare to teach more effectively, in order to hold a better position with greater success so that all the basic needs of the individual (ego enhancement, prestige, status, security, mating, new experiences, and so forth) may be more adequately satisfied.

If we are to understand the behavior of people, and especially that of our pupils, we must think not only in terms of motives but also in terms of such processes and purposes as going to school, going on vacation, associating with a specific group of friends, living in a specific family, working at a specific vocation, and living under a certain form of government.

Interest in terms of purposes, needs, and processes of living. If belonging to the college band, the library club, the Y.M.C.A., or any similar organizations, enhances our prestige or makes possible our acceptance by a congenial social group, we join. We are interested in those things that we believe meet our needs, although they may not always do so. Much has been written about the place of *interest* in education. We pay attention, work, concentrate, and give preferences in order to achieve the things in which we are interested. We are interested in those things that meet fundamental needs, that fit into or are related to our major purposes in life and enable us to achieve our goals. Interests, like motives, can only be understood in terms of the larger processes of living, the ways of our culture, and the over-all purposes and aims of the individual.

LEARNING TO PLAN LONG- AND SHORT-RANGE GOALS

Long-range goals such as becoming a teacher, a doctor, or a grocer modify and determine motives and interests and are rather mature. Some students seriously choose such goals early in life, others later in life, while many may never seriously decide upon a vocation that requires long periods of planning and execution. Generally, the younger the child is, the more incapable he is of conceiving such long-range goals. His motives and interests are more immediate and he is more impatient to achieve them. He is more subject to whims and fancies, is motivated and interested in the more immediate satisfaction of needs, is impatient, and has a short attention span.

One of the purposes of education is to emancipate the child from his dependence upon passing whims and impulsive desires and to tie in his purposes, motives, and interests with long-range goals. For example, the 14-year-old boy who bounces out of bed early on cold winter mornings to deliver his papers may have a definite long-range scheme in mind. He may be saving his money to buy a new bicycle so that he can extend his

THE NEED FOR SLEEP AND REST

The average six-year-old needs about twelve hours of sleep per day while the twelve-year-old needs about nine hours. This is a reduction of three hours in sleep need over a period of six years or about one-half hour reduction per year. Many children fail to get enough sleep. Elementary-school children do not adequately recognize the need for sleep and relaxation. Interesting things are usually happening at home and in the neighborhood during the evening hours, and children rarely want to go to bed. Sometimes they overexert themselves during the day and find it difficult to sleep at night. A child's anxiety to "achieve up to standard" may also disturb his proper and normal sleeping habits. Parents who go out frequently and cannot afford "sitters" take the children with them to movies or card parties. The children fall asleep, are aroused to go home, and much of the sleep they get is only partly beneficial. Many small children roam the streets or go to movies at night without adult supervision. Indulgent or careless parents with radio and television sets are also frequent offenders. The teacher must use all the social ingenuity he possesses in broaching this subject to parents. Children without enough sleep find it difficult to stay awake in school, are listless and inattentive. When children are obviously sleepy during school hours, the proper procedure is to provide a place for them to sleep in the classroom. In any case, the child must get his rest—a primary need.

THE NEED FOR WHOLESOME FOOD, PURE WATER, AND PROPERLY CONDITIONED AIR

The well-nourished, properly rested child is free from infection, has clear eyes, color in his cheeks, and tremendous energy and vitality. When this is not true, reasons for the condition should be sought. Although the school must rely on the cooperation of the parents in furnishing adequate and balanced nutrition for the child, there is much the school can do in improving the diets and eating habits of pupils and their parents. The study of foods and food groups should receive attention in the learning units at every grade level. This can be done regardless of the limitations of the school facilities. Ideally, the eating habits, likes, and dislikes of every child should be known to the teacher. Planning balanced meals is, of course, made more effective and easy if it can be done in relation to a school cafeteria. Some schools provide for school lunches in the regular school budget. Many manufacturers and processors of foods have available without cost educational material on nutrition that is scientifically reliable and free from obnoxious advertising. Not all free material is suitable or reliable and must, of course, be checked.

the need and frequently is not. We consult many kinds of specialists concerning our needs, doctors about improving our health, architects with reference to what our houses should be like, and lawyers in regard to our civic security. All behavior is in response to some need. A boy's need for security and status in a group or for the love of his parents may be the real cause for his bullying behavior in class or on the playground.² Another boy's domineering attitude may represent an attempt to compensate for his small physical stature.

Writers on education also frequently assign many meanings to the term *felt need*. Correctly defined, it refers to a basic need that is conscious, but its meaning often is assumed erroneously to be synonymous with *desire* or *want*. Some schools that claim to meet the felt needs of children are actually concerned only with the child's superficial wants and desires. They fail to recognize that the basic needs of children refer to sound achievement, purposeful goals, and skills that give status and self-respect. A school that fails to recognize these basic needs and takes no steps to satisfy them may be adding to the maladjustment and unhappiness of its pupils. One of the great responsibilities of teachers is to motivate children so that they strive intelligently to satisfy their real needs in ethically and socially acceptable ways.

• Organic Needs³

Organic needs of children have their basis in the physiochemical nature and condition of the organism. The need for sleep, rest, food, water, fresh air, elimination, physical and mental activity, and freedom from infection are examples. Most of these needs tend to change rapidly during maturation and to some extent throughout life. The teacher in the elementary school must be especially concerned with the changing nature and needs of children. It is important that the teacher, in considering the needs of a class, be aware of individual and trait differences as they apply to all areas of development. The pupils develop at different rates in the various traits. The same child shows varying rates of growth in his different abilities. The traits reach a mature level at different times and the level of development reached at maturity differs for individuals and for the various traits of an individual. No two individuals develop in the same way or at the same speed, even though they tend to follow the same general pattern. Hence, as the needs of the typical child at different grade levels are described here, the teacher must remember that this is a device of convenience and economy. The teacher must be concerned most of the time with the needs of specific children.

² For a case in point, see Chapter 21.

³ The suggestions in Chapter 5 are intended to supplement and clarify the brief discussion of organic needs given here.

of the heating and ventilating conditions of the room and integrate this activity with a unit in science.

**THE NEED FOR DEVELOPMENTAL
ACTIVITY—MOTOR, INTELLECTUAL,
SOCIAL, AND EMOTIONAL**

The need for activity is obviously a biological need, the whole organism being structured for it. It is important, however, that the activity be suited to the level of the child's motor, intellectual, social, and emotional development, because if the curriculum is synchronized to the developmental needs of children, the problem of motivation is largely solved. The curriculum should be designed to broaden continuously the meaningful and related new experiences that are necessary to the maximum development of the child. The only basis for determining the developmental status and needs of a child is to observe his behavior either directly or indirectly.

NEEDS CHANGE FROM DAY TO DAY

From early infancy the child is an explorer and his curiosity takes many turns. He wants to hear, see, taste, smell, handle, manipulate, and investigate everything that comes to his attention. Once he has learned to talk, he wants to know *what* things are for, *when* things are going to happen, *why* things are done the way they are, and *how* things work. He observes and listens to all that goes on about him, interpreting it in the light of his limited experience and information. He watches his father and mother at work; he observes the neighbors, the people who call at the home. If he lives on a farm, he is interested in the animals, the car, the truck, and the farm machinery. If he lives in the city, the policeman, the fireman, the milkman, the grocery man have a challenging fascination for him. He listens to the conversation of those about him, to stories, the radio; he probably has seen the movies and television. The things that don't make sense arouse his curiosity. Words with more than one meaning bother him when he hears them in a new context.

His toys are miniature reproductions of things about him—houses, dolls, trucks, animals, automobiles, airplanes. Much of his thinking is make-believe. He plays house with his sister and the neighbors' children. He plays delivery truck, mailman, railroad, aviator, cowboy. Dramatic play is a vital part of his life. When needed, he creates imaginary playmates with names and characteristics. With this imaginative capacity, the line between the real and the unreal is not always sharp. He may tell fanciful stories and invent incidents. Why not? They meet his needs as well as does the house he builds from boxes and blocks or the truck system he establishes to haul sand. They are part of his growing and learning. Despite all his eager observing, experimenting, building, playing, and listening, he has limitations from the adult point of view. Moreover, his observations, movements,

One of the most effective means of convincing children of the detrimental effects of unsatisfactory diets is to set up a controlled nutritional experiment in the classroom. One experiment requires at least two but preferably several cages suitable for white rats. These cages can be made or purchased. Two young rats are placed in each cage. The pupils plan the diets for each pair of rats, care for them, weigh them at regular intervals, and show the growth of each rat in tabular and graphic form. The weight, size, vitality, and glistening fur of the rats with the ideal diet will do much to convince children that drinking milk and eating a balanced diet are important. Such an experiment will attract the interest of the whole school but cannot generally be repeated with profit year after year, unless variations or extensions are introduced.

Nutritional problems sometimes arise because of parental anxiety over the child's eating habits. Growing children often assert their independence by refusing to eat certain foods. There are always a few homes in which the parents fail to get up early enough to get breakfast for their children before school time. In many homes meals are hurried because parents must prepare the children for school and report for work themselves.

The exact amount of water a child should drink each day cannot be determined with any great accuracy. The active child demands more water than the inactive one, and children drink more water on a warm day than they do on a cold day. Usually, the sensation of thirst can be relied upon to prevent any serious deficiency of water in the tissues, and drinking fountains should be provided in each classroom or on each floor to enable children to drink when they wish.

There is much controversy over what the optimum conditions are for school children insofar as heat and ventilation are concerned. Anyone who has visited many classrooms in a day is struck by the difference in temperature, humidity, and odor of classrooms even in the same building. Variations of from 65 to 90 degrees Fahrenheit have been found in the same building. Some rooms are hot, stuffy, and malodorous. The bad effects from such conditions are not due to a reduction of oxygen or an increase in carbon dioxide in the air but probably to discomfort from improper temperatures, humidity, odors, and air circulation. In some rooms a group of children sit constantly in a blast of hot air, in others in a blast of cool air.

In the absence of evidence to the contrary, we may well assume that the motivation of effective school work is made easier when air conditions are pleasant and stimulating. It is generally recommended that the relative humidity of a classroom should be between 40 and 50 per cent and room temperature should be between 68 and 70 degrees Fahrenheit. The air movement should be mild but constant, allowing for sufficient change to prevent the accumulation of unpleasant odors. An excellent procedure for the teacher to follow would be to allow the pupils to make periodic checks

of the heating and ventilating conditions of the room and integrate this activity with a unit in science.

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thinking, and plans are very gross in the sense that he has not yet differentiated fine details. The control of the large muscles of arms, legs, and trunk has been differentiated. His purposes and goals have required it. But the differentiation required for control of muscles in detailed writing, drawing, and sewing, of course, are not far advanced. This will take time; he must differentiate details in terms of his purposes before they will have meaning to him and they must have meaning before he attempts to execute them. The extent to which the first-grader has differentiated the features of a man is evident when he draws a man. head, body, legs, arms, fingers, toes, ears, eyes, mouth, nose, hair, etc. Professor Goodenough⁴ has shown that the extent of differentiation demonstrated by a child when he draws a man is a good indication of his over-all intellectual development. A child draws in an effort to make visible his ideas about the things that he has thought about or that are familiar to him. For example, armholes are a very important part of a coat to a child who has had trouble putting his arms into them without help. It is not uncommon for children at this stage of development to draw carefully the armholes on an otherwise nude figure. Or, at a certain stage in the child's development, all coins become pennies or nickels, all animals dogs or cats. If the teacher is to plan meaningful activities for children and expect to see them successfully completed, he must know the extent to which children have differentiated details in any area of behavior.

The first-grader is not sensitive to sex, social status, or skin color to any extent, and selects his playmates without reference to these factors. But the boy with the ball, the girl with the big doll, the bad boy who hits him and smashes his house, and the nice little girl who helps him are differentiated in terms of his goals. He selects and rejects his friends in terms of their ability to further his objectives. Nor is he aware of time concepts as related to periods longer than a day, week, month or year, or of distances greater than those represented by the bounds of his neighborhood.

As one considers the spontaneous activities of children at various grade levels, it is important to keep in mind that individual differences increase from a typical range of four years in the first grade to a typical range of eight years in the seventh. The most advanced children in any grade are above the average child in the next higher two or three grades. The average second-grade child has advanced somewhat beyond his first-grade level, but in both years he is concerned with differentiating his environment in terms of his goals. Group plans grow more detailed and are effective for

longer periods. As time passes, units of work can be made a little longer. Dramatic play becomes more mature in the sense of being more realistic, more detailed, and more sequential.

In the third grade, the average pupil has reached the point at which he can differentiate rapidly in reading and writing. A child has a large oral vocabulary which develops rapidly in school. Somewhere between the third and the sixth grade, his reading vocabulary catches up to it. He is able to concentrate for longer periods, and is more attentive to detail in construction and art work. As his horizon gradually widens, his actions and desires become more socialized, as a result there is more identification of the individual with the group. Group planning and evaluation periods become more effective. Interests have extended his immediate neighborhood and community. He is interested in comparing his community with those in other regions of the world and other periods of time.

In the fourth, fifth, and sixth grades, the intellectual differentiation of the environment and of the responses to it continue to develop rapidly. At this stage of development, the child's curiosity is more detailed: he may have collections of stamps, of rocks, of insects, and so forth, in which small differences are important and fascinating to him. Time periods and distances begin to take on meaning, and work and play and the real and the fanciful are more clearly distinguished. Boys and girls tend to play and work in different groups, and much rivalry is displayed between the sexes. Generally, boys are attracted more by science, sports, and mechanical things; girls are more interested in home life, parties, trips, sewing, and clothes. Another indication of development during these grade years is that children have learned to differentiate between good and poor work. They are more critical of what they do, even to the point of refusing to show their work because it does not meet what they have set as their level of aspiration. In connection with this critical attitude, some children even adopt models of conduct and become self-conscious when their own behavior fails to measure up to the standards they have chosen.

Differentiation of the environment has reached the stage where differences may be explained in terms of causes. The building of boats, wind-mills, airplanes, and even electrical motors by the more advanced boys with attention to the relation of design to performance is possible. These children not only differentiate cause and effect, but also synthesize their experiences in the form of simple generalizations such as: "The slope of the roof depends on the amount of rainfall." "In dry climates flat roofs prevail." "The food, clothing, and shelter of people are determined by the climate."

It should also be noted that children in the fourth, fifth, and sixth grades are rather highly skilled in reading and writing, are more attentive, and

goal in which the here and now is considered in terms of the past, the future, and the distant future. As the powers develop, the child grows in his ability to profit from and appreciate the experiences of men in other times and places.

• Social Needs

Social needs are sometimes called *personality needs* or *psychological needs*, since they are rooted in man's intellect and emotions as well as in his culture. The specific form that these needs assume for a particular individual at a given time is dependent upon many factors such as age and developmental level, sex, socio-economic status, racial and nationality characteristics, and the home. Social needs display the same range of differences as do all human qualities and a study of them reveals much information that is helpful in understanding the motives and behavior of children. We have called them *social needs* because their existence and satisfaction assumes membership in social groups. It is not important what we call them. It is important how we deal with them.

An important characteristic of a good learning situation is a strong ego-involved purpose on the part of the learner to acquire the various socially approved behavior patterns with which the school is concerned. The behavior patterns fostered by the school, if valid, do increase the individual's *social acceptance*, *prestige*, and *status*. They increase his *security* in society, bringing *favorable attention* and *recognition* to him. They recognize and reward the individual's special aptitudes, abilities, and accomplishments. In this way they enhance the ego. They furnish a progressive broadening of significantly related and purposeful *new experiences*. In simple words, the school is designed to meet the social needs of the individual.

The curriculum and the school must be so organized and conducted that children's basic social needs are met and satisfied daily. Solving a page of long division problems merely for the sake of checking them with the answer key and getting a mark in the teacher's grade book will not satisfy a child's social needs. But an arithmetic exercise *can* be made a satisfying social experience, as can most sensible school assignments. (See Part Three.) Throughout this book, it is emphasized that man is essentially a social being.

THE NEED TO BELONG

It is probably correct to say that the child's social development starts at birth. At an early age he recognizes those who care for him, and before

his first birthday understands many words addressed to him. Usually, by the time he is two years old, he is using language as an effective social tool. The passage of another year or two finds him eager to play with other children and willing, at times, to risk parental disapproval and punishment by "running away" to find companionship with those his own age.

Children, like adults, differ greatly in their sociability. Some children seem to get along well with adults and other children from a very early age. They are alert, responsive, considerate, and smiling. Others are timid and shy, or quarrelsome, rebellious, hostile, and unhappy and take part in group activities only reluctantly. Still others seem to be happy only when they are occupying the center of the stage and "showing off." The extent to which these differences are hereditary or environmental is a matter of controversy. Both influences are important and, with the exception of foster children, tend to operate in the same direction.

Of course, merely being with others of his own age does not satisfy the child's need to belong. There must be mutual acceptance, a feeling of mutual concern and affection, a commonness of purposes, goals, and activities. There must be a feeling of being a part of something bigger than self, of being wanted, respected, and liked.

It is a serious tragedy if a child is not accepted by the group in which he finds himself. For example, when children cross the street at the school patrol crossings by twos and no one walks with John, he feels it and thinks to himself, "They don't like me. Everyone wanted to walk with Bob. He is strong and has a new bicycle and is smart and the teacher likes him." If such occasions are frequent, the child broods and is troubled. He may develop feelings of hostility or inferiority or set out to do things that he mistakenly thinks will make him more popular.

A child who is loved and accepted at home but not at school may withdraw from other children and come to depend too strongly upon his parents for affection and the satisfaction of other needs. If he is not loved and accepted by his parents, he may seek compensation in the company of his mates and make a satisfactory adjustment to the situation, depending, of course, upon the type of children he associates with. But if he is rejected both at home and at school, serious maladjustment is indicated. In the early years, acceptance by parents and teacher is most important to the child, but beginning with the intermediate years, acceptance by the "gang" often becomes of more consequence. In some schools where teacher-pupil relations are strained, a child's rejection by a teacher may actually be a mark of distinction and a basis for status in the gang.

The school curriculum should insure that every child has a satisfactory role to play in achieving the purposes of the group. Solidarity is achieved when the class has common goals and common understandings, makes

common efforts, and experiences common difficulties and common achievements.

The need for love and affection, the need for approval, acceptance, and status in the group, and the need for security are all closely related and this should be kept in mind even though these factors are treated independently.

THE NEED FOR LOVE

This, perhaps, is the most important need of the child and is related closely to many of his other social needs. When the need for love is satisfied, for example, the child inevitably feels more secure. Almost everyone, child or adult, is willing to admit that at times he grows more or less insecure and fearful over his own inadequacy, incapacity, and unworthiness. But when we feel we are loved by someone we respect and regard highly, our sense of security returns. The child feels secure in the love of his parents when he knows that even though he may be inadequate, fail, disobey, quarrel, and be punished, their love and acceptance of him will still remain. The security found in deep and abiding friendships, in the marriage relationship, and in religion is largely of this form.

It is especially important that children in the kindergarten and elementary school feel that the teacher is truly and deeply concerned with their welfare and happiness. If the teacher is kind, helpful, considerate, patient, just, understanding, and consistent, the pupils will feel secure in school. Such attitudes show in almost every move and action of the teacher, even in his tone of voice. Children are seldom fooled by the teacher who occasionally softens an otherwise harsh manner to disguise his dislike for his job.

Studies⁶ have shown that most elementary teachers are highly concerned for the well-being of their pupils and are, in turn, accepted by them. Nevertheless, there are many teachers who are essentially hostile to children, who derive no satisfaction from their personal relations with their pupils, and seek security mainly by stressing conventional virtues, abusing their authority, and flaunting their superior knowledge.

THE NEED FOR APPROVAL, ACCEPTANCE, AND STATUS

It is necessary to satisfy these needs if we are to counteract our feelings of inferiority and unworthiness. We strive for achievement and for credit in order to convince ourselves as well as others that we are worthy, that we are somebody. The ten-year-old who gets up at an early hour to practice

⁶ Walter W. Cook, Carroll H. Leeds, and Robert Callis, *Manual, Minnesota Teacher Attitude Inventory*. New York: The Psychological Corporation, 1951.

reading a story he has volunteered to read to the class, the student who works overtime on the really tough arithmetic problems, the pupil who spends extra hours on a special report, all realize that the successful completion of these tasks will increase their status with classmates, teacher, and parents. The problem for the teacher is to make certain that the learning process is integrated successfully with this prestige element.

The pre-primary and primary-school child looks to his parents and his teachers for acceptance, commendation, and recognition. If he succeeds in school, he will gain the approval of those he respects most. School is a new experience for him. He has no record of past achievement to encourage him if he should fail in his work, so it is important that he feel confident from the beginning. To insure this, the pupil should not be required to attempt tasks that are beyond his abilities, and should work with a group that is approximately equal to him in ability. If the child is not successful in his first attempts at reading, writing, or number work, he will soon come to think that he cannot learn these skills. When the child incorrectly concludes that he cannot do a certain thing, the teacher must then help the pupil "unlearn" this attitude and develop the ability to perform the task. A child's development may be delayed for years, sometimes for life, if he believes he lacks all ability to achieve in a given area. Many an adult can recall a deprecatory remark someone has made about his singing voice, artistic ability, or mathematical competence. If such a remark comes at a time when the individual also is questioning his ability, it may have disastrous results insofar as the person's self-confidence is concerned.

As pupils progress through the elementary school, they attribute less importance to recognition by parents and teachers and more to acceptance by others of their own age. Pupils in the intermediate grades seek acceptance by their groups with marked deliberation. Their choice of clothes, their mannerisms, enthusiasms, and choice of language show a gradual seeking of independence from adults and a deepening concern for the opinion of their peers.

Of course, the seeking of recognition from the immediate gang is not a lofty form of motivation. To seek status with a recognized group of authorities, or experts, or initiates, regardless of the opinion of the immediate audience is a higher ethical form. And to seek status with God, or in the ultimate decision of mankind, or with the masters of the ages, in spite of all current opinion, is higher still. Yet the teacher in the elementary school will do well to enlist group support for classroom endeavors that have educational value.

THE NEED FOR SECURITY

Security is the same thing as the absence of fear. It is desirable within limits that individuals fear such things as loss of sustenance, love, prestige,

or position. We should approach such fears rationally and feel secure in our belief that with some effort on our part we can overcome them successfully. The child's fear of failure at a task that is beyond his ability to surmount is undesirable, but some fear of failure at a task that is within his ability may be desirable. Irrational fears or phobias serve no useful purpose. But everyone needs to fear failure which may come through faulty or inadequate behavior. The fear of events or disasters that cannot be prevented is a useless, debilitating fear. It is useful to fear only those things that we can do something about. A youngster's feeling of helplessness in the face of a divorce that he believes will break up his home, or apprehension over his failure to please a teacher who is inconsistent in requirements and behavior are examples of fears to which children should not be subjected.

THE NEED FOR NEW EXPERIENCE AND ADVENTURE

The imaginative teacher with a broad knowledge of literature and science, some dramatic ability, and showmanship can make every school day an exciting adventure for the children. For example, Miss Watkins, a first-grade teacher, walks into the classroom with a shoebox under her arm. The lid is securely tied but there are air holes in the lid. She places the box on the desk and busies herself with activities in the room. The children's eyes are on the box. There is a scratching noise inside. Finally one child asks, "Miss Watkins, what is in that box? It sounds like an animal." Miss Watkins then tells them that there is an animal in the box and she would like to have them guess what it is. As the children ask questions, Miss Watkins prints them on the board with the answers, as follows:

Does it have fur?	Yes
What does it eat?	Insects
Does it have feathers?	No
Does it have two legs?	Yes
Does it have wings?	Yes
Can it fly well?	Yes
Does it have a tail?	Yes

The children read the questions and answers with rapt attention and expectation. They are actually hard at work on a lesson in reading. Finally someone correctly guesses that the animal is a bat. Then follows a discussion of bats and their characteristics.

The teaching of literature, science, arithmetic, the social studies, art, and other subjects can be filled with the elements of exciting adventure and surprise. The teacher should be aware of these possibilities and seek to introduce them into every learning situation as far as possible.

• Discussion Questions

1. From your own school experience give examples of motives and indicate how they initiate, direct, sustain, and select activity
2. Give examples to show a motive that is effective because it is part of a goal-directed activity in process.
3. Give examples of goals that serve to motivate varied activity that would be difficult to motivate otherwise.
4. A child is kept after school because he did not complete an arithmetic assignment. After school he completed the work in a very short time. Discuss the possible motives involved. What feelings and attitudes are probably involved in this experience? To what extent is such an episode a reflection on the motivation of school work?
5. Give examples of educational goals that may be set through teacher-pupil planning in the first grade, in the sixth grade. In what ways do they differ?
6. Criticize the point of view of a teacher who believes that the fanciful tales of primary children should be treated the same as lying.
7. Give examples of how teacher-pupil planning may blaze a trail for pupil activity that leads to highly satisfying and rewarding achievement
8. Why was teacher-pupil planning ignored in traditional elementary-school procedure?
9. What objections do you see to school procedure in which the teacher tells the pupils what to do, when to do it, how to do it, whether it is done correctly or not, and assigns rewards and penalties based on the performance?
10. Give examples of schoolroom conditions, procedures, and practices that ignore the organic needs of children
11. Give examples of schoolroom procedures and practices that ignore the social needs of children.
12. What arguments can you present to show that love is the most effective shield against insecurity and anxiety?
13. Observe the speech, play, drawings, and behavior of a first-grade child to determine what aspects of the environment he has differentiated. Tell why these elements were differentiated before others.
14. Give examples of how the social needs of children can be satisfied through educational experiences.
15. Distinguish carefully between needs and desires. Give some examples of each as they involve elementary-school children.

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PHYSICAL GROWTH AND

Children of the same age in the same grade will differ widely in their physical size as well as in their degree of maturity. Teachers must be alert to the problems which may arise, for these differences affect the individual's sense of belonging, his happiness and self-confidence, and his social acceptance by the group.

A child's mental and emotional growth and development are roughly paralleled by various aspects of his physical development. The physical aspects of child growth and development are of basic significance in the elementary school. Size and degree of physical maturation determine the purchase of schoolroom furniture, the selection of supplies and equipment, and the construction of new buildings. The age and ability of the children who will climb the stairs, stand at the washbowls, and use the chairs, tables, and equipment are taken into consideration. At the same time, the wide ranges in physical characteristics *within each grade* must also be served. For example, not all children of the same age are the same size or strength. However, children of like ages have more in common than do children grouped on any other basis.

• Basic Patterns of Physical Development

Much of what the elementary teacher needs to know about physical growth and development is used primarily as background for the physical education curriculum, but this information is necessary, too, in order to carry on other aspects of the elementary school program. In general, elementary teachers should know the basic patterns of physical development that begin in early childhood and continue through puberty and adolescence.

The first-grade teacher should know that muscles close to the trunk of the body develop before those further away. This order of development is called the proximo-distal sequence and can be most readily observed in infancy. The muscles proximate to the trunk-line of the body (a line drawn through the center of the body from the head to the feet) are ready for use before those farthest away. This means that upper-arm movements can be controlled for their purposes before the small muscles of the fingers can learn to guide a spoon or a pencil. The muscles of the hand that are

MATURATION

MATURATION

The concept of maturation is one that needs special consideration with respect to the physical changes that occur in growth and development. In broad terms, maturation is the process of development toward being capable of maximum performance. It is an involved idea. For example, maximal performance in one skill or function may occur at a different age than will another.

If a group of children have the opportunity to take lessons in drawing at the age of five and continue with instruction and practice in drawing till the age of eight, many of them make appreciable advances in drawing. Most of the eight-year-olds who start fresh in the drawing class need time to catch up, particularly with those who started earlier, but most of them do catch up ultimately *because an eight-year-old has matured physically and has had incidental general practice that makes him a more apt student than his younger competitor*. All the early instruction that may be given cannot do away with the fact that children, as they mature, gain in their ability to manipulate, to learn, and to be creative. Children whose education in specific areas has been deferred tend to move rather quickly to more advanced levels of performance after instruction is begun.² This does not suggest, of course, that *all* teaching be deferred.

There is a tendency to conceive of progress toward maturity as a slow, steady, consistent process of growth. This is far too simple. Child growth and development is a complicated process. As an example of this complexity, progress is often slowed up by long or short "plateau" periods during which (apparently) no progress at all is made. This will be true regardless of the efforts of parents, teachers, or the children themselves. It will be true despite diagnosis and remedial programs. There is speculation that some plateaus of this kind may be caused by idiosyncracies of growth in muscles, nerves, and nerve-endings. Other plateaus may be caused by shifts in the interests of the learners: a boy who desperately wants a bicycle may dream so much about it that he neglects his academic work.

Much maturation takes place where it cannot be observed. Bones and muscles grow, and the internal organs and the nervous system become both more complicated and more differentiated in their functions. This last, the growth of the nervous system, is something about which little is known. X-ray studies of the same children over a period of years reveal a great deal about successive steps in the growth of bones and the functioning of joints. The history of the developing musculature is not a total

² Arthur T. Jersild, *Child Psychology*, 4th edition. New York. Prentice-Hall, Inc., 1954, p. 162.

mystery either. Growth in strength can be readily measured. But we know little of what is happening in the nervous system when we learn. It may be that we will be able to find out much more about all aspects of maturation when we finally learn about the maturation of the nervous system itself. This may some time prove to be the key to a better acquaintance with maturation throughout the body.

Maturation, exercise, and readiness. The older child has had opportunity for more experience and exercise than the younger. The degree of experience and practice with running, jumping, hitting, throwing, dodging, swimming, and other movements is far greater than we normally think. The breadth and depth of a child's experience is often underestimated.

"The amount of incidental practice children obtain is surprising. One psychologist reports seven-year-olds bouncing a ball about once every second for several minutes at a time at frequently repeated intervals. He also reports thirteen-year-olds, in playing five to ten games of ping-pong, taking from 1100 to over 2000 strokes. In a midwest community study in which several children have been observed over a twenty-four hour period, nearly a thousand classifiable behavior incidents were found to make up the day of a ten-year-old boy."³

The relationship of gross physical growth to exercise, with or without purpose, is hard to determine. Doubtless, there could be growth without exercise, but complicated motor coordination at a high level of excellence is unthinkable without practice. This role of practice is worthy of attention in the elementary school. Many activities must be assigned to stimulate interest and to build readiness through exercise and practice. It is not enough to rely entirely on the biological fact that a child becomes more ready as he grows older. Readiness is not a miracle. Where conditions are right, it can be helped along. This is true despite the fact that even the best teaching cannot take the place either of physical development or of innate mental ability. For instance, if a child's eyes are not physically "ready" for reading, reading should not be undertaken. But superior pre-primer materials together with excellent instruction will help quicken a student's desire to read and will sustain him in the hard work of making a beginning.

Admittedly it is difficult to know when a student is ready for instruction. A parent can see when a baby is ready to learn to walk, but a teacher has a more difficult assignment in determining when a child is ready to hear and feel the beauty of a sonnet.⁴ This chapter is concerned primarily

³ Mildred C. Templin and Robert H. Beck, "Some Contributions of Child Study to Modern Education," in *The Three R's Plus*, Robert H. Beck (editor), Minneapolis, Minnesota: The University of Minnesota Press, 1956, p. 20.

⁴ Some of the most interesting studies of readiness have been done by Willard Olson. In his concept of the "organismic age," Olson believes that the child has

with the physical development, but it is difficult to discuss it separately from intellectual and emotional factors.

GROWTH IS CONTINUOUS BUT IRREGULAR

Physical growth, like the development of such motor skills as skipping, balancing, and some of the more complex forms of locomotion, moves forward with few reversals. A child who has developed sufficiently to skip, and has learned to skip, usually does not move backward to a lower level of skill. In short, growth tends to be sequential and continuous. However, growth is irregular. A new skill is acquired through practice. Its continuous and intensive use may interfere with the learning of another skill in process at the same time. "The little youngster just learning to feed himself may, as he begins to show real growth in language, have some difficulty in, or even temporarily give up, feeding himself. Social and academic skills acquired in middle and later childhood or in adolescence often show this same interrelation."⁵ A sixth grade child, at the onset of adolescence, often practices various types of adult behavior in speech, dress, and behavior, but at the same time may demonstrate a child's need for "babying" by the parents.

• Implications of Continuous, Irreversible, Irregular Growth

The effective teacher will of necessity plan against the background of child growth and development. When he plans for the introduction of new skills, he will take into account the pattern of development common to the age and status of the pupils. He will plan for the development of skills with full knowledge of the physical sequences on which they depend. He will take into account the irregularity in the maturation or development of some students, and he will provide alternative types of activity for those with various levels of ability. These statements illustrate the dependence of the teacher on a knowledge of growth and development.

The continuity of growth has implications for the teacher. Effective teaching requires that the "next step" in the development of a skill be one that it is possible for the child to take. Success in each phase of a learning

many ways to let us know when the point of readiness has been reached. In general, the conclusion to which Olson seemingly comes is that the child in a rich and stimulating environment will learn and that pushing and prodding are generally a waste of time.

⁵ Mildred C. Templin and Robert H. Beck, "Some Contributions of Child Study to Modern Education," *The Three R's Plus* (Robert H. Beck, editor). Minneapolis: University of Minnesota Press, 1956, p. 17.

activity contributes to further learning and is at least partially dependent upon what has preceded. Sometimes a child may have the physical equipment in nerve, muscle, or bone required for a new, higher level of skill, as in baseball or tumbling or drawing, but if he has not had expert coaching and has not practiced, with and without supervision, he may not be ready to push on. Thus, a young second-grade pupil who has not learned the skills that a kindergarten and nursery school can teach will have to master many of those skills before he can compete with his fellows who have learned. He can make up for lost time if he is properly motivated and instructed and if he has adequate ability.

Children cannot and should not be unduly rushed in motor performance. They cannot skip a "grade of progress," be it in basketball, industrial arts, or handwriting. Jersild believes that much lack of ability among adults in such things as playing a musical instrument, skating, or sewing is the result of being compelled at school by their teachers or by the course of study to begin at levels that were beyond them.⁶

Motor skills are important in the modern curriculum. They are important in infancy and childhood and they are important in adult life. In general, physical skills not learned in childhood or youth will not be of interest at forty. Ordinarily, the adult will not devote the necessary time to the first stages of skill necessary for later excellent performance. There are exceptions, of course. All of us know men and women who have learned to play a musical instrument at fifty or have learned to enjoy painting with water colors and oils after retirement. Adults *can* learn, but the probabilities are far less than at fifteen.⁷

Children in elementary school apparently need more freedom for physical movement than do children in the upper years of the secondary school. Children tend to practice the physical skills that they have most recently acquired. Children, during the first three grades if not before, are able to skip, hop on one foot, run and jump over obstacles, jump rope, throw and catch a large softball, build representations of familiar structures with blocks or sand and clay, use pencils, paint brushes, chalk, and perform in countless similar ways. They learn to put on and take off their clothes and over-clothes, tie their shoelaces, and manage zippers, and fasteners. During the period of the early grades, children tend to establish hand-eye dominance. Many of them are just growing out of the time when they need sleep during the day. They are getting to the point where they can sustain their attention and effort for periods as long as one hour in some cases. They

⁶ Arthur T. Jersild, *Child Psychology* (fourth edition). New York: Prentice-Hall, Inc., 1954, p. 162.

⁷ Arthur T. Jersild, *Child Psychology* (fourth edition). New York: Prentice-Hall, Inc., 1954, p. 167.

learn to persist at tasks that are difficult for them and fraught with the danger of making mistakes. They begin to be able to travel alone on buses and other public conveyances and to go on errands to and from school. They learn their way around an increasingly larger neighborhood.

They continue from infancy their willingness to spend prodigious amounts of time practicing physical skills that they wish to master. They become progressively interested in group games and team games and the number of children in play groups can range from three on up, with preference for one sex. They like to follow the leadership of the group, and individuals often do so even when they find that it is opposed to their own original desires. As they grow older, they like to test their physical skills and abilities (as well as their intellectual and artistic achievements) against one another, and they develop a growing ability to do so without undue pride, rancor, or resentment.

As children grow older, they begin to play their sex roles with increasing discrimination. To a great extent, these roles are determined socially and culturally, but they are, of course, basically physical, even though physical maturity is not a factor in the early years. As children develop a conception of selfhood (one of their most important tasks) they think of themselves as little boys and little girls and pattern their behavior after the expectations held for boys and girls. The boys tend to play with boys, the girls with girls, though an occasional crossing of lines is allowed. Boys begin to accept adult standards of politeness toward girls, and girls begin to demand a certain "respect." Girls increasingly acquire the characteristics of their parents and teachers that they practice when they "play house" and "play school." Girls show aggression mainly through words, while boys more frequently use physical force.

As children grow older and pass through the middle grades, they engage in more advanced physical activities the exact nature of which vary from community to community. They engage in many rhythmic activities (folk and social dancing) and in group and individual games and sports. They begin to develop skills in grooming (girls earlier than boys) that are appropriate to their sex roles. The girls show increasing dexterity in the use of sewing and cooking utensils, combing, manicuring, and so on. Boys develop skill with tools, neckties, and similar objects that males are called upon to use. Both boys and girls show increasing ability with crafts, with erector sets, models, and carving. In some communities and societies, the boys may come to regard certain subjects (English, for example) as sissified, or in some other way assign values that are in conflict with those of adults. Sex roles also vary from one social class to another in accordance with parental values in the earlier years and with peer values later.

Grace of movement and dexterity grow year by year. In the upper grades,

boys increase in their enjoyment of rugged competitive sports involving strength. Boys and girls lengthen the periods of practice that they devote to desired skills. They have an increased attention span that is useful for all sorts of learning. They learn to work off their tensions with physical activity.

The spurt in growth and strength that occurs at puberty has implications for the upper elementary school. Athletic skills adapted to individual needs should be developed. One way or another, the degree of physical maturity affects the child's self-assertiveness, boisterousness, impudence, ability to take criticism, ability to assume responsibility for the safety and welfare of others, and devotion to study. Particularly difficult, sometimes, are the problems faced by children who mature early, physically, but whose mental and emotional development lags. Other children mature quite slowly physically, but are the possessors of quick minds. Teachers must be alert to such disparities in development, for the children who have them are subject to many emotional strains. Classroom activities and formal school activities do not always meet the needs of such children. Informal, mixed-sex activities may help, and individual counseling may be called for. All the skills of kindness and insight are needed in unusual cases.

At any given age, boys tend to vary more in the various physical traits than do girls. As examples, among boys of eleven there is a greater range of height, weight, and motor ability than among girls of the same age.

Physiologically girls develop more rapidly. While at birth boys tend to be taller and heavier than girls, a difference that persists into middle childhood, girls are physiologically more mature. They continue more mature until adolescence. Moreover, girls arrive at puberty about two years ahead of boys. While boys generally become pubescent at *from fourteen to sixteen*, girls enter puberty between twelve and fourteen. From about eleven to fourteen, when the adolescent growth spurt begins, girls are heavier and taller than boys. Height and weight illustrate the advances in physiological *maturity of girls over boys in early adolescence.*

5. What are the implications for curriculum of the statement that physical growth is continuous, irreversible, and irregular?
6. What place has the development of motor skills in the curriculum?
7. What adjustments might be made in the curriculum because of the variation in the rate of development of boys compared to girls?
8. Is it advisable to start children to learn things as soon as they are able to take the first steps toward learning them? Do you believe it is wise to expect children (or adult workers, for that matter) to perform at top efficiency and effort all the time?
9. Someone said that psychology would remain in its infancy as a science until psychologists found out what happens to the nervous system when we think. What do you think?
10. A baby is allowed to learn to walk and talk at his own decision, but four years later is often "told" just when and how to learn what about a whole lot of things such as reading, writing, singing, dancing, and so forth. To what extent can this be defended?

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• Discussion Questions

1. Chapter 3 stressed individual differences. This chapter stressed growth and development. What are some of the relationships between the two?
2. Can two children of the same sex be equally mature but greatly different? How?
3. Name as many instances as you can where the use of academic knowledge in school involves physical skill or practical dexterity.
4. How could physical growth and development affect emotional or intellectual development? How could this happen even if physical growth were "normal"?

Shy children should neither be neglected nor forcibly pushed and pulled into social participation. A teacher can help make the classroom atmosphere warm and friendly. In situations in which children like and respect each other, they generally find it possible, with guidance, to develop common interests and values.

The attitudes of teachers and the feelings of pupils permeate the whole elementary school curriculum. This makes it impossible to write of the curriculum as though it were no more than a course of study. It is more than that. What is learned is affected by the learner's attitude toward subject matter *and* by the pupils' drive to learn. These things, in turn, are affected by the youngster's relationship to his teacher. The attitudes of the instructor modify the quality and the degree of the pupil's achievement.

The complex interrelation of teacher and student will be explored in this and the succeeding chapter. This chapter will discuss the "autocratic" (authoritarian) and "democratic" (more "permissive") personality types found among teachers. It will be concerned with the "personality of the pupils" and it will discuss the relationships between pupils and teachers with some particular reference to classroom discipline.

TYPES OF TEACHER ATTITUDE

In this and the next chapter, the adjectives, autocratic (authoritarian) and democratic, are meant to distinguish *general tendencies*. A teacher who is "generally democratic" will display attitudes and behavior patterns clearly different from those of the authoritarian-autocratic teacher. Nevertheless, it must be admitted that in real life no one is altogether "democratic" or altogether "autocratic-authoritarian." Very few teachers would be described as thoroughgoing autocrats or democrats. In the main, all of us combine democratic with autocratic-authoritarian traits. *It is a question of which set of traits shows up most frequently in our attitudes and behavior.*

TYPES OF CLASSROOM ATMOSPHERE

It would not matter whether teachers tended to be either democratic or autocratic if that tendency had no effect on their classes. Apparently it does. Research suggests that the teacher properly designated as democratic estab-



PERSONALITY AND THE

• Types of Teaching Personality

1. THE AUTOCRATIC (AUTHORITARIAN) TEACHER

The autocratic (authoritarian) teacher attempts to dominate whenever possible. When he succeeds, the probable result is a classroom atmosphere marked by tenseness, fear, and submission. If he fails and, as a result, allows himself to grow nervous, fearful, and distraught, students will be quick to recognize his confusion and will become restless, inattentive, and disrespectful. In either case, any wholesome attitude toward school work that may have been present soon vanishes, to be replaced by feelings of mutual distrust and hostility. Both teacher and pupils attempt to hide their inadequacies, their ignorance, and their mistakes from one another; ridicule, sarcasm, and sharp-tempered remarks are common. The teacher tends to think in terms of his status, his judgment, and the subject matter to be covered, rather than in terms of what the pupil feels, knows, and can do, and what is essential to his development.

The extremely autocratic teacher is insecure in his social relations.² He has never developed attitudes and graces that insure his success in normal social intercourse. Such a teacher may be reasonably secure in dealing with recognized inferiors or superiors where one either gives or takes orders, but until such a hierarchy is established, he feels insecure. He is not comfortable in an equalitarian atmosphere. His sense of social inferiority may be the result of many factors such as autocratic home and school environment, poor physical appearance, failure to be accepted socially in high school and college, or some other disappointment; but whatever the cause, he has developed an aggressive attitude that takes the form of general hostility toward people. He is convinced that it is unwise to trust anyone, that most people are sinful, that they are honest chiefly because they fear the consequences of a wrong act, and that most will use unfair means to gain profit. He believes that most children are disobedient (and they are, with him), but do not appreciate what is done for them, cannot be trusted, and, in class are continuously conspiring against him. "I must be alert," he cautions himself, "and not let them get away with anything." It is difficult for him to find security in his relations with other people, so he seeks refuge in asserting his power and authority.

Security through virtue. In seeking security through a pharasaic type of goodness and virtue, the authoritarian teacher holds rigidly to the obvious conventional standards and values. He does not see these virtues as

² Walter W. Cook, Carroll H. Leeds, and Robert Callis, *Manual, Minnesota Teacher Attitude Inventory*. New York: The Psychological Corporation, 1951.

lishes one kind of classroom atmosphere and the autocratic teacher another. This refers, of course, to the classroom atmosphere that *generally* occurs. A skillful and experienced teacher will vary his techniques. The interested observer must ask how the teacher usually teaches.

Cautious use of adjectives. The authors would emphasize how cautious one must be in using such adjectives as "democratic" and "autocratic." It might be only slightly less dangerous to employ other terms such as "dominative" for democratic and "socially integrative" or "rigid" for autocratic-authoritarian. We have elected to make use of the contrasts between democratic and autocratic (authoritarian) because there has been excellent research that employs a contrast between these personality types.¹ The democratic-autocratic (authoritarian) "pair," then, is well known in the literature of research on human behavior. But democratic and authoritarian are "emotive" terms; they arouse an emotional response. In the United States, people prefer "democratic" and dislike "authoritarian." Such emotional preference is altogether unscientific and can be misleading. We say this in order to place the reader on guard lest he be won to favor or to disapprove this or that type of teaching because of the name attached to it.

The personality of the teacher affects individuals in the class. Any class contains individuals whose feelings for each other make up an atmosphere. The teacher is the most influential personality in this group. If the teacher is aware of how the members of the class feel about each other, he knows that some of them are greatly admired by their fellows while others are actively disliked. He knows that this varies from day to day and hour to hour. He senses many of the frustrations and the hostilities. As things of this kind become clear to him, his desire to make the school more effective may lead him to investigate the children's homes, their out-of-school play groups, and their health. Within the classroom he may try to help pupils in many ways. For example, he may distribute the actively disliked or ignored students throughout the class, pairing them with other students who are able to start them on the way to self-confidence. Through this type of concern for the welfare of students, a teacher grows in sympathy and understanding. He develops into the type of teacher to whom students are attracted, to whom they are loyal, and for whom they will exert themselves.

Some prospective teachers are not sympathetic. They will never become good teachers unless they develop their ability to understand and to be concerned about others. In fact, unless they change, they may do positive harm. The prospective teacher can increase the degree of his future success by seriously taking into account the various aspects of social learning.

¹ Among the best known of the studies on the authoritarian (and, by inference, the democratic personality type) is *The Authoritarian Personality* by T. W. Adorno, Else Frenkel-Brunswik, and R. N. Sanford. New York: Harper and Brothers, 1950.

II. THE DEMOCRATIC PERSONALITY

The single most important factor in creating a democratic social atmosphere in a classroom is the personality of the teacher. (This was true of the autocratic teacher and classroom, as well.) The democratic teacher has a deep affection for people and confidence in them. He is sensitive to the feelings of others, and his greatest satisfaction comes from working to further their welfare. Being neither a reformer nor a perfectionist, he accepts himself and his limitations and is willing to accept others on the same basis. He is slow to condemn and quick to forgive and accepts criticism objectively without becoming emotionally upset. Because he feels secure in his social relations, he is not greatly concerned with his status as such. The virtues he deems most important are those that contribute to harmonious and satisfying social relations. He recognizes that any form of behavior carried to excess may be harmful. Being secure, he seeks adventure and welcomes the imaginative, the creative, and the innovative. The democratic teacher (unlike his opposite, the authoritarian) is less inclined to be impressed by titles, degrees, or position. Also, he seeks ideas from the most humble, tries to establish what is true, and expects people to listen to him not because of his position but because of what he says. He remembers that subject matter is only a part, though a valuable part, of the learning process and of the educational development of the child.

The effect of the democratic personality on teaching. Over a fifteen-year period, Cook, Leeds, and Callis investigated the attitudes of teachers toward students and the effects of these attitudes upon the achievement of boys and girls.³ They developed the Minnesota Teacher Attitude Inventory, which is an instrument that compares the scores of those who are measured by it with the scores of successful teachers. Cook and his colleagues learned that the attitudes of teachers toward children and school work can be measured with high reliability. Further, they learned that these attitudes correlate highly with types of teacher-pupil relations found in classrooms. Teachers whose attitudes were friendly, permissive, or encouraging had close rapport with their students. The investigations also revealed that principals rated their friendly, congenial teachers far above those who lacked rapport with their classes.

Teachers in training should try to develop desirable personality traits. Cook is persuaded that a teacher whose "scores" on the Minnesota Teacher Attitude Inventory are high should be able to maintain relations with pupils

³ Walter W. Cook, Carrol H. Leeds, and Robert Callis. *Manual, Minnesota Teacher Attitude Inventory*. New York: The Psychological Corporation, 1951.

means to human happiness or as moral-ethical values, but as behavioral ends in themselves. He regards all misbehavior as a serious threat to his security so he is impelled to seek out, condemn, and punish severely anyone who violates a rule. There is little sense of humor in this teacher, but there is a strong sense of duty combined with a perverted sense of justice sometimes in the form of getting even, and a deep hostility toward people that condemns their wickedness and yet enjoys their suffering under punishment.

The authoritarian teacher is disposed to think in rigid, "all or none," "black or white" categories; "children should be seen and not heard," "children are too carefree." He may have an exaggerated concern with sex: "It is better for a girl to be bashful than to be boy-crazy," "children have no business asking questions about sex." Another strong belief he harbors, one that is necessary to his security, is that he is always and unquestionably in the right, that "it takes a lot of argument to convince most people of the truth." He believes that "children nowadays are allowed too much freedom in school," or "the whims and impulsive desires of children are not worthy of attention."

Security through position and power. Power and position are needed by the authoritarian personality. The winning of an advanced degree may be vital in this respect, for the authoritarian believes its acquisition will add greatly to his prestige and his influence with other people. Regarding authority as he does, he is often submissive and uncritical toward authority from above and domineering and overbearing toward subordinates and pupils.

Security through knowledge of subject matter. The authoritarian teacher often seeks security through developing his knowledge of subject matter. He is likely to assert that if one knows his subject, little else matters in teaching, and he is prone to believe that a teacher should never acknowledge his ignorance of a topic in the presence of his pupils. It is true, of course, that many people who are not authoritarian believe these same things.

Often, the authoritarian teacher uses democratic procedures when they serve his purposes. In this case, we may find an autocratic classroom controlled through what appear at first to be democratic procedures. In pupil-teacher planning the discussion always continues until the pupils discover what the teacher has had in mind all the time—the procedure degenerates into something resembling a guessing game and an exercise in subtle suggestion. Such teachers wear a velvet glove to conceal the mailed fist.

Of course, this description of the authoritarian teacher represents the extreme. Seldom, if ever, would all the characteristics we have noted be found in one person. At the other end of the continuum is the extremely democratic teacher.

to pretend to be what one is not, or to pretend to origins that are not real.

In any situation where teachers (or others) feel socially insecure, they feel insecure in relation to one or more other persons. Almost everyone has such feelings sometimes and to some extent. Regardless of their extent, anyone having them may become unresponsive, cold, distant, and distrustful of the motives prompting others in the group. On the other hand, they may become too aggressive. A person with such feelings may sometimes overcome them by putting himself in the place of the other fellow. He should try to understand *why* the other person does what he does.

Critical attitudes toward children block the development of the teaching personality. In classroom situations where teachers are prone to be overly critical of children's behavior, an interesting device frequently successful is to have the teacher select, somewhat at random, a single child for intensive study. The object of the study is to understand the causative factors in that child's behavior. As the teacher comes to understand many of the factors involved in the behavior of a single child, he tends to develop better attitudes toward the behavior of all other children.

Whether or not observation is concentrated on one child, it is good to remember that observation is the best means of getting to know about a pupil. Clearly, observation by one teacher is to be supplemented by records of observation by other teachers, by records of achievement and behavior contained in the pupil's "cumulative record," and by information that may be available from trained full-time counselors. Observation is at its best, sometimes, in the frequent *informal* contacts that teachers have with boys and girls. Occasional conversations, more formal conferences with the youngsters (and their parents when possible), and even planned interviews are of proven worth as means of gathering information to supplement test scores. Olson and Wattenberg make it quite clear that informal talks are successful because they spring from a desire to understand rather than from the need to enforce conformity.⁶

The need to share one's problems sometimes blocks the growth of good teaching attitudes. Teachers who have difficulty in achieving a sense of security often tend to avoid talking about their problems. Sometimes they need someone in whom to confide. While no one wishes to be burdened constantly with tales of woe from those around him, the teacher who is willing to be a sympathetic listener will discover that he can be of great help to his colleagues.

Lack of professional competence blocks the development of personality.

⁶ Willard C. Olson and William W. Wattenberg, "The Role of the School in Mental Health," *Mental Health in Modern Education*. 54th Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1955, p. 109.

characterized by mutual affection and sympathetic understanding. It is to be expected that, in the classroom of the teacher with these attitudes,

"the pupils should like the teacher and enjoy school work. The teacher should like the children and enjoy teaching. Situations requiring disciplinary action should not occur. The teacher and pupils should work together in a social atmosphere of cooperative endeavor, of intense interest in the work of the day and with a feeling of security growing from a permissive atmosphere of freedom to think, act, and speak one's mind with mutual respect for the feelings, rights, and abilities of others. Inadequacies and shortcomings in both teacher and pupils should be admitted frankly as something to be overcome, not ridiculed. Abilities and strengths should be recognized and used to the utmost for the benefit of the group. A sense of proportion involving humor, justice, and honesty is essential. Group solidarity resulting from common goals, common understandings, common efforts, common difficulties, and common achievements should characterize the class."⁴

Blocks to desirable personality development Mere knowledge about the attitudes that characterize superior teachers will not necessarily result in the maintenance of superior teacher-pupil relations by the new teacher. In order to be helpful to the beginning teacher, the discussion that follows will undertake to suggest some of the factors in personality that break down the productive relationships between pupils and teachers.

"*Social insecurity*" may be caused by many factors such as general appearance, difficulty in heterosexual adjustment, low social status of a family,⁵ or failure to be accepted socially in high school. Experience has demonstrated that one of the most effective means of overcoming a sense of social insecurity (in an adult) is to participate in adult social activities. Through them, the insecure teacher may soon discover that others are quite willing to take him for what he is. Participation in professional groups is equally important. Many universities sponsor summer workshops. They are almost always informal and in them insecure teachers often discover that they are accepted and encouraged by their fellows. The camaraderie of the workshop tends to draw teachers from their shells.

Similar personal reinforcement can be gained from working in church groups, study groups, and recreation and hobby groups. The purpose of such a group may be to identify birds, to hike, to collect tropical fish, or to raise funds for a worthy purpose. A byproduct of participation in such a group by those who are socially insecure is the opportunity to learn that people are not hypercritical, unfriendly, or cruel. Anyone interested in associating with others will be accepted in most groups on his own terms and for what he is. There is no need to "play upstage," to "put on airs,"

⁴ *Ibid.*, pp. 3-4.

⁵ See Chapter 8.

ferent view. Hobbes was identified with the group that lost the revolution. This led him to speculate that men, left to themselves, would be brutes. Over them, he wrote, there must be a powerful authority, "the Leviathan," or absolute monarch. In the state of nature, said Hobbes, men are constantly at war with one another.

The Calvinist version of depravity, complementing the pessimism of Hobbes, led such early New England theologians as Jonathan Edwards to preach the need for harsh discipline. "Spare the rod and spoil the child," emerged as the dictum of this dour interpretation of childhood nature. Teachers who have this attitude today find themselves in opposition to the bulk of the literature on child growth and development. Once again, Jersild may be quoted as reflecting the preponderant view.

"... children have a strong disposition to be friendly; . . . to respond in kind if treated in a courteous, democratic manner . . . in a school situation that allows some freedom of choice and initiative, they show more capacity for assuming responsibility for their own conduct than has been assumed in the theory underlying traditional methods of discipline."⁹

Although no student of child behavior today would advocate that children be allowed to grow up according to the "precepts of nature" as Rousseau suggested, neither would they adopt the view that all children are by nature mean and brutish.

A *developmental approach to children's feelings*.¹⁰ In Chapter 5, the physical growth and development of children was sketched. The concepts of *maturation* and of *readiness* were given special emphasis. They are important also in the consideration of personality and of emotional-social development.¹¹ "The career of a child and of his elders would be smoother," writes Jersild, "if adults would be more willing to accept a child at a given age level for what he is."

The "authoritarian" and "democratic" family. Earlier we discussed the personalities of teachers in terms of the autocratic and the permissive types. Now we will use the terms authoritarian and democratic to characterize

⁹ Arthur T. Jersild, *Child Psychology*, third edition. New York: Prentice-Hall, Inc., 1950, p. 599.

¹⁰ R. J. Havighurst, "Research on the Developmental Task Concept," *School Review*, 4:215-223, May 1956.

To be at home in the school situation, the teacher must be well prepared in his subject and have confidence in his methods. Knowledge of subject is important in sustaining the interest of pupils, and a reasonable degree of confidence in one's methods will contribute to the pupils' confidence in all that goes on in class. Both will give the teacher confidence, too, in experimenting with new methods.

Teachers will be more secure professionally if they understand and are able to take into account the duties and responsibilities of administrators. The realization that principals and supervisors also sometimes feel insecure may contribute to the teacher's security in dealing with them. Greater rapport between people on different levels of authority or influence in a school system also is achieved as better communication between various groups is developed.

• The Personality of the Pupil

The promotion of learning, broadly conceived, is the central objective of the elementary school curriculum. Thus, children should be happy, healthy, curious, persistent, ambitious, and able to study and to exchange information. Perhaps Jersild points the way toward this outcome when he says, ". . . a child thrives best in an atmosphere of affection and friendliness."⁷

ARE CHILDREN NATURALLY GOOD OR BAD?

For at least two centuries there was debate on the question of the natural inclinations of children.⁸ The classic statement of the more optimistic view of the nature of the child was that of Rousseau in the eighteenth century. He said that before men became "civilized," they behaved as "noble savages" and as unspoiled, dignified beings. The opening sentence of *Emile*, Rousseau's essay on education, reads: "All things come good from the hands of God and degenerate in the hands of man." Rousseau believed that children, if brought up in a natural way would need little coercive discipline. They would be good—naturally.

An Englishman, Thomas Hobbes, who had experienced the barbaric behavior of his countrymen in the English revolution had advanced a dif-

⁷ Arthur T. Jersild, *Child Psychology* (third edition). New York: Prentice-Hall, Inc., 1950, p. 598.

⁸ For a review of the study of child development see John E. Anderson, "Child Development: an Historical Perspective," *Child Development*, 27:181-196, June, 1956.

anarchy. There must be respect for authority of the proper kind, yet there must be encouragement and guidance for each child, and he must be given freedom to express himself and to experiment without feeling that he will be blamed or rejected.¹⁴

The psychoanalytic psychologist, Martha Wolfenstein, concurs in the opinion that the adult's role is not to indulge the child or to give way to his every impulse. Nor is it to revert to the philosophy of "spare the rod and spoil the child." Rather, she favors a position that combines respect for children with willingness to act as an adult in giving firm, fair guidance to children. Wolfenstein words the recommendation in interesting psychoanalytic terms:

"The findings of psychoanalytic child psychology stress that the child needs and wants the adult's help in controlling his impulses even though he often protests against the same restraints. He needs the assurance that his incompletely established inner controls will get firm external support against impulses which he fears will run away with him. And he needs to feel that the adult has achieved a more sure mastery of impulses. The adult is not in the same position as the child in relation to the rules, nor does the child want him to be."¹⁵

Children often exhibit "resistance" to authority. Regardless of its psychological explanation, teachers regard it as "undisciplined behavior" when it disturbs classroom routine. The resistance of youngsters is annoying. For example, whispering or talking, day-dreaming, and other inattentiveness is undesirable to a teacher bent on doing his job. He feels that pupils must be attentive if they are to learn what they must learn.

From one point of view, however, a certain amount of resistance by children is desirable. Moustakas suggests that all children naturally seek identity, a "sense of self." Perhaps for a child to find himself a person, it is necessary that some of his behavior be self-directed in defiance of adult direction—especially when the adult direction is so persistent that it leaves him little time and occasion for self-direction.

"Resistance is a way for the child to maintain consistency of self in the light of external pressure. It is a healthy response, an effort of the individual to sustain the integrity of the self. When the individual submits without wanting to submit, he is weakened and unable to function effectively. Conformity blocks creativity, while freedom and spontaneity foster growth."¹⁶

¹⁴ Else Frenkel-Brunswik, "Differential Patterns of Social Outlook and Personality in Family and Children," in Margaret Mead and Martha Wolfenstein, *Childhood in Contemporary Cultures*. Chicago: University of Chicago Press, 1955.

¹⁵ Martha Wolfenstein, "Implications of Insight—I," in Margaret Mead and Martha Wolfenstein, *Childhood in Contemporary Cultures*. Chicago: University of Chicago Press, 1955, pp. 443-448.

¹⁶ Clark E. Moustakas, *The Teacher and the Child*. New York: McGraw-Hill Book Company, 1956, p. 5.

the homes and families that have so much influence on the children who grow up in them.¹²

Speaking of family relations in a highly authoritarian home, Frenkel-Brunswik points out what some of these influences may be. Family relations

"... are commonly based on roles clearly defined in terms of demands and submission. Execution of obligations rather than affection is the basis of smooth functioning in such homes. Furthermore, there is a stress on stereotyped behavior and an adherence to a set of conventional and rigid rules. The intimidating, punitive, and paralyzing influence of an overdisciplined, totalitarian home atmosphere may well exert a decisive influence upon the thinking and creativity of the growing child."¹³

The democratic or "equalitarian" family type finds more favor with Frenkel-Brunswik for the same reasons that the democratic atmosphere found favor with Lippitt, White, and Lewin and the democratic atmosphere in the classroom found favor with Cook. Such families are likely to develop children with democratic attitudes. The children, when asked to describe the type of teacher they prefer, characterize him as one with distinctly democratic attributes.

It seems from this research that children from authoritarian homes develop habits or expectations about how they will be treated that equip them to live most readily with teachers who have authoritarian attitudes. It would seem, also, that children from homes with more modern attitudes are better equipped to adjust to a permissive atmosphere in a modern classroom. It is not too much to imagine that it is difficult for a child to understand what he can expect from adults—parents and teachers particularly—if their habitual responses to his behavior differ from what he learned to expect at home. "Teacher lets me get away with that, but Dad certainly won't!" What is right, what wrong, for this youngster?

There are no clear answers to such questions. Children have to meet many situations that are not ideal, but we cannot ourselves provide poor conditions in the school or permit them when they can be recognized and avoided.

ADULT CONTROL OF CHILDREN

How much *permissiveness* is desirable in the education of children? How much control must be arbitrarily exercised in the management of the young? Frenkel-Brunswik and her associates are forthright in saying that all authority must not be foresworn: total permissiveness might verge on

¹² Else Frenkel-Brunswik, "Differential Patterns of Social Outlook and Personality in Family and Children," in Margaret Mead and Martha Wolfenstein, *Childhood in Contemporary Cultures*, Chicago: University of Chicago Press, 1955, pp. 369-407.

¹³ *Ibid.*, p. 383.

this difference in responsibility between mental hygienists and teachers, the fact remains that teachers and mental hygienists show the same long-term objectives.

Acceptance of the child. The day-by-day management of children at home or at school requires firmness, but firmness is no substitute for understanding or for warmth of personality. Understanding the child should progress to the point where it permits acceptance of him as a person. All children have the right to be accepted, although parents and neighborhood may have dealt so cruelly with them that their subsequent hostility demands saintly patience.

An excellent, workable definition of "acceptance" is given by Olson and Wattenberg:

"By acceptance is implied a tendency to welcome the youngster into affectional relations 'for himself alone.' In this sense, the relationship can be said to belong to the child regardless of his intelligence, conduct, sex, size, or race."¹⁸

Children need to develop a concept of "self." Were we to select one basic drive apparently motivating all children, we would probably agree on "the need to establish self-identity."¹⁹ Children find out who they are and what adults and other children think are their attributes, in interaction with parents, teachers, and friends of all ages. By the age of five or six, attitudes towards self and towards others have taken shape; though these attitudes are subject to modification. When the elementary-school teacher greets a new pupil, he hopes that he comes to school from a home that has permitted the development of "positive" emotional attitudes.²⁰

If the child finds that adults upon whom he is dependent for the satisfaction of his physical needs and for affection generally support his efforts, he tends to grow in self-confidence. On the other hand, the child cannot be expected to gain in self-confidence if he learns to expect rebuff, coolness, and rejection when he makes overtures of friendship or when he asks

¹⁸ Willard C. Olson and William W. Wattenberg, "The Role of the School in Mental Health," *Mental Health in Modern Education*, 54th Yearbook, National Society for the Study of Education, Washington, D.C.: The Society, p. 102.

¹⁹ Arthur T. Jersild, *In Search of Self*. New York: Bureau of Publications, Teachers College, Columbia University, 1952. Clark E. Moustakas, *The Teacher and the Child*. New York: McGraw-Hill Book Company, 1956, Chapter I, "The Basis for a Personal Relationship Between the Teacher and the Child." One of the most interesting and instructive publications discussing the development of personality in childhood is that of Lois Barclay Murphy, *Personality in Young Children*, Vol. II. New York: Basic Books, Inc., 1956. The elementary school teacher is also recommended Levi T. Hopkins, *The Emerging Self, in School and Home*. New York: Harper and Brothers, 1954; James L. Hymes, Jr., *A Child Development Point of View*. New York: Prentice-Hall, Inc., 1955.

²⁰ Clark E. Moustakas, *The Teacher and the Child*. New York: McGraw-Hill Book Company, 1956, pp. 18-19.

It is not easy to teach in the face of very much unwillingness and resistance. It seems natural to disapprove of those who offer resistance in the classroom. However, there may not be much of a gap between annoying resistance and sturdy independence. Self-assertion may be necessary to all as they grow to adulthood. Most of us admire the man who "can stand on his own two feet," and who knows and speaks what he truly believes. We do not identify obsequiousness, submissiveness, vacillation, and gross timidity with rugged personality.

It is encouraging to note that teachers are becoming increasingly more willing and able to take a view of pupil resistance which mental hygienists approve. The best evidence of this achievement by teachers comes from the review of E. K. Wickman's studies originally done in the late 1920's. Wickman's research, published in 1928 by the Commonwealth Fund, showed that mental hygienists and teachers were poles apart in rating what they believed to be serious student misbehavior. In brief, Wickman noted that teachers were disturbed by classroom behavior that outraged their moral sensitivity, defied their authority, or otherwise made it difficult to teach. Psychiatrists and psychologists in the Wickman study were more concerned with behavior which was unsocial, withdrawing, unhappy, depressed, or that showed suspiciousness, fearfulness, shyness, and cruelty. To teachers, on the other hand, lying, cheating, and stealing were samples of the most serious misbehavior.

Wickman's studies have been reviewed in recent years and there have been publications of the review by E. C. Hunter, J. C. Mitchell, and G. A. Stouffer.¹⁷ In these reviews one learns that the mental hygienists have not significantly altered their appraisals of what constitutes serious behavior problems in the classroom but that teachers have come to recognize the seriousness of unhappiness, depression, unsociability, withdrawal. Teachers today still are most aware of behavior that is annoying, disorderly, irresponsible, aggressive, untruthful, and disobedient, but they no longer are oblivious to behavior indicative of social-emotional maladjustment.

No one should expect teachers to overlook good order and the recognition by the students of the teacher's authority. The teacher has to teach; the mental hygienists, however, are not responsible for teaching a class. Their chief responsibility is for thinking about the development of behavior problems, together with the long-run effect of such problems on the personality of the boy or girl who will be a man or a woman. Acknowledging

¹⁷ E. C. Hunter, "Changes in Teachers' Attitudes Toward Children's Behavior Over the Last Thirty Years," *Mental Hygiene*, 41:3-11, 1957; J. C. Mitchell, "A Study of Teachers' and Mental Hygienists' Ratings of Certain Behavior Problems of Children," *Journal of Educational Research*, 36:292-307, 1943; G. A. Stouffer, "Behavior Problems of Children as Viewed by Teachers and Mental Hygienists," *Mental Hygiene*, 36:271-285, 1952.

the program to the state of readiness achieved by each member of the class. Though the concept of "readiness" has been defined in earlier discussion, it can be illustrated in terms of the primary levels, where it is somewhat more difficult to comprehend than in the intermediate. By the time a student has reached the fifth and sixth grades, his cumulative record folder will contain a good deal of information on his behavior and range of achievement. His teacher in those grades will have a reasonably good "picture" of him. In the lower grades, the picture is more difficult to compose. This being so, it is necessary that the primary teacher be given the means to take each child into special account, and to read and reflect upon the literature of child growth and development.

Behavior contrast in autocratic and democratic atmospheres. The first widely accepted descriptions of pupils in democratic and autocratic social climates were made by Lewin.²³ His account was based on studies made by Lippitt and White at the Iowa Child Welfare Research Station involving clubs of ten-to-eleven-year-old boys. (The purpose of the clubs was to make theatrical masks.) The autocratic group structure was not an extreme one. It was always friendly, and there was no attempt on the part of those in charge to suppress free expression. The leader merely told the children what to do, with whom to work, and how to proceed. The social atmosphere was that typically created by a friendly teacher who believes in order and strict discipline. In the democratic group situation, however, all problems of policy were discussed with the children. The leader acted as fully as possible as a regular member of the group, and decisions on what to do, when to do it, and how to do it were made cooperatively. Lewin's report of the effect of the different social atmospheres upon the boys is as follows:

"(1) Probably the greatest quantitative differences (as between democratic and autocratic group structures or atmospheres) is the amount of hostility expressed among the members of the group. It is about thirty times as high in the autocratic group as in the democratic group.

(2) This is probably due to the greater tension which seems to prevail in the autocratic group. This tension shows itself in the fact that the total volume of social interaction is 55 per cent greater in the autocratic group, in spite of the fact that objectively there is less need of communication in regard to the ongoing activity because it is directed by the autocratic leader.

(3) The autocratic group shows a less stable group structure. Thirty-eight per cent of the time the members of the autocratic group work each by himself (group structure 1-1-1-1-1-1), or only one of the children works with another (2-1-1-1-1-1), whereas, in the democratic group such struc-

²³ Kurt Lewin, "Experiments on Autocratic and Democratic Atmospheres," *The Social Frontier*, 4:316-319, July, 1938.

questions. Some children will overcome the obstacles placed in their way by adults but many children are beaten down and become behavior problems. Nor are these "casualties" few in number. Jersild thinks that almost a third of any elementary school class is maladjusted or disturbed.²¹ The home and the school must take cognizance of this problem. Of the two institutions, the home may be the more important cause of mental ill health among children, but the trained staff of the school may be in the best position to bolster the child's self-confidence. This it can do only as the youngster feels that his teacher is his friend.

The teacher must realize that he cannot undo all that has gone before in the formation of a child's personality. Three positive steps, however, are possible. The elementary school can give the child a chance to experience success. The teacher must try to see the pupil's efforts in terms of what he, the child, is trying to accomplish. Success is achieved by the child when he tries to accomplish something that he feels worth doing at the same time that he does what the teacher wants him to do. Possibilities of achievement are improved when the youngster feels that he has the support and approval of the teacher.²²

It cannot be said too often that under no circumstances must an elementary-school teacher permit himself to express a criticism of a pupil's work that can be taken by the boy or girl as a negative estimate of his worth *as a person*. All evaluation voiced to students must be objective appraisals of their achievement, of their work, and not of themselves. The teacher must never say: "How stupid you are, Joseph, you have the problem all wrong again!" This attack on Joseph's sense of worth is an assault on his self-confidence that cannot possibly encourage him to try harder. Even if it does not incite him to defensive hostility towards the teacher, it can do no good at all.

The elementary school can also remain alert to individual differences.²³ Olson and Wattenberg,²⁴ widely recognized as authoritative commentators on what the school can do to demonstrate worthwhile mental hygiene practices, stress the great importance of taking individual differences into account.

A third practical course of action in the elementary school is to adjust

²¹ Arthur T. Jersild, *Child Psychology*, fourth edition. New York: Prentice-Hall, Inc., pp. 585-590.

²² Helen Shacter, "Mental Health Practices in the Primary Grades," *Mental Health in Modern Education*, 54th Yearbook of the National Society for the Study of Education, Washington, D.C.: The Society, p. 179.

²³ This principle is discussed in Chapter 3, "Individual and Trait Differences," and in Chapter 20, "School Administration and the Curriculum."

²⁴ Willard C. Olson and William W. Wattenberg, "The Role of the School in Mental Health," in *Mental Health in Modern Education*, the 54th Yearbook of the National Society for the Study of Education, Washington, D.C.: The Society, p. 101.

As a whole, one might say that the autocratic situation was characterized by what one might call a state of higher basic tension, less objectivity, and more hostile aggressiveness. This aggressiveness was not directed openly against the autocrat (toward whom the children generally were rather submissive) but tended to find an outlet in the easy and less dangerous way of attacking the scapegoat.

Sometimes the behavior in the autocratic group is such that overtly everything seems to go along smoothly, and the children seem to like the situation. It was quite a revelation when the interviews with the children (which were conducted by a person not connected with the experiment) brought out a most intensive dislike of the autocrat. Not infrequently the dominant note in autocracy is not so much an atmosphere of hostility as one of . . . listlessness."²⁶

In summary, one may say that *autocratic classroom control tends to produce authoritarian personalities*—hostile, selfish, self-centered, sensitive, fearful, critical people who have little confidence in, or affection for, their fellows. They constantly need a leader to tell what to do, and cannot act effectively unless constant guidance is assured them.

• Discussion Questions

1. Is it proper to categorize teachers as "autocratic" or "authoritarian" and "democratic"? Are there better words we might use to describe them? What words would you suggest?
2. In the section dealing with gaining security through virtue, did you feel that there was any intent on the part of the authors to discount the value of virtue as we commonly use the word? Why do you feel as you do?
3. Is position or power bad or good in and of itself? Why?
4. Isn't mastery of subject matter important to a teacher? What is wrong in seeking security through knowledge of subject matter?
5. Why do pupils resent the exercise of autocratic powers by teachers? Do they *always* resent it? Did you?
6. Is the democratic personality as described here too "goody-goody"? Have you known anyone who approached the ideal set forth in this chapter? Describe the person who came nearest to it.
7. Were you ever a member of a class or grade that developed democratic group control over itself? Describe how it was done.
8. How do you help children become ready to assume leadership in a democratic group? How do you prepare them to select, follow, or replace their leaders?

²⁶ Kurt Lewin, "Experiments on Autocratic and Democratic Atmospheres," *The Social Frontier*, 4:316-319, July, 1938. See also Ronald Lippitt and R. K. White, "The Social Climate of Children's Groups," in R. Barker, J. Kounin, and H. Wright (editors), *Child Behavior and Development*. New York: McGraw-Hill Book Company, Inc., 1943, Chapter 28.

ture occurs only 18 per cent of the time. The more cooperative group structures in which all or at least four of the five children worked together (5,4-1) occurred in the democratic group much more frequently; 56 per cent, against only 12 per cent in the autocratic group. In the autocratic group the more cooperative group structure had to be built up by the experimenter and had a tendency to break down rather quickly, whereas in the democratic group this cooperation developed spontaneously.

(4) The autocratic group shows more *dominating behavior and less objective behavior*. This difference was particularly great in relation to outgroups where the autocratic group showed 102 per cent more ascendant behavior than the democratic group.

(5) The democratic group showed 47 per cent more feeling of 'we-ness' as expressed in language and in test situations; the autocratic group (expressed) 27 per cent more feeling of 'I-ness.'

(6) It is in line with this that the democratic group showed *more cooperative endeavor*. More often cooperation was offered and asked for, and there were many more instances of praise and expressions of friendliness.

(7) There was more expression of an objective, *matter-of-fact* attitude in the democratic group as against the more personal feelings in the autocratic one. Many more constructive suggestions were offered in democracy and there was more give-and-take of objective criticism without personal involvement.

(8) The *constructiveness* was higher in the democratic group as shown in the superiority of the group products. Certain test periods where the experimenter left the room for a short while were introduced. In such periods, typically, the constructiveness of work in the autocratic group fell down very quickly, whereas in the democratic situation work went on with very little change.

(9) Feeling for *group property and group goals* was much better developed in the democratic group. The records show that the children at the close of the club had the tendency to destroy the masks or take them for themselves individually in the autocratic group, whereas in the democratic group they presented them to their leader and teacher.

(10) During the twelve meetings of the club twice the situation of *scapegoat* arose (in the autocratic group), where the whole group ganged together against one of the members. At the fourth meeting most of the hostility was directed against one member. The next day he was still the center of hostility. As a matter of fact, he was treated so badly that he ceased to come to the club. A few weeks later another member was made the scapegoat. He too quit, saying that he had bad eyes and that he could not come because his physician said his eyes needed the fresh air.

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9. Someone has said, "Children will never turn against a teacher if they feel he is on their side of the fence—their team." What does this mean when viewed according to the context of this chapter? If this is true, could he be autocratic and at the same time be loved, respected, and followed?
10. It has been said, "Happy teachers are good teachers." Could we also say, "Good teachers are happy teachers"? Does the happiness of the teacher depend upon the class?
11. Can you distinguish the types of personality in your class? How do you account for these differences? What evidence have you for your judgment?
12. Do you feel that a child's "position" in the family influences his personality?
13. Can you sketch some plans for aiding the development of personality among your students? What types of behavior do you feel should be discouraged or encouraged? Why?

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THE TEACHER AND THE

ities, but we will try to be specific as well. In later chapters, particularly Chapters 21, 22, and 23, stories will be told of teachers who know how to work with groups in the classroom.

1. *There should be no stigma attached to belonging to the group.* In a one-room rural school, a fourteen-year-old feels no stigma from being in the same room with a six-year-old. But in a graded school, where status depends upon grade label or where developmental level is a criterion for grouping, it becomes difficult for a retarded pupil to accept younger, smaller (and more intelligent) children as his peers. Sometimes a group rejects a younger, smaller member who has been accelerated. To avoid these feelings, it is generally best that grade groups be formed with reference to the most obvious criteria of status—chronological age and physical and social development. The grouping is not the factor that does the damage. That comes from the feelings of those who are grouped.

2. *Group achievements that are accepted and praised outside the group enhance its pride and cohesiveness.* This in turn brings about a better identification of the individual with the group and less need for the individual to seek selfhood in unsocial ways. The successful culmination of a unit of learning, publication of a room newspaper, presentation of a dramatic production, or any successful enterprise to which the entire group has contributed increases the group's stability.

3. *Group suffering can be a cohesive force.* Children under a tyrannical teacher feel a bond of comradeship, mutual sympathy, and unity that makes their burden more bearable. Obviously, however, this is not a desirable way to increase group morale. Such a situation is productive of much hostility and the group, unable to release its resentment against the teacher, may turn its enmity against one of its own members.

4. *The group undertaking must be broad enough to enable every member to make a contribution that the group and the individual recognize as important.* The role that the individual plays in the group enterprise should be suitable from the standpoint of his learning and personality needs, abilities, and values.

5. *The members of the group should have common interests, needs, and values and yet be sufficiently different to complement each other in aptitude and abilities.* For example, a cohesive baseball team is made up of players approximately equal in ability, or possessed of individual skills necessary to the group, all interested in the sport and all with similar ideas of sportsmanship and team play. But if too many of the players insist upon being pitchers, or catchers, or first basemen, group cohesiveness may be strained unless some plan is adopted such as the rotation of positions. *There is important work to be done by the individuals with I.Q.'s of 70, 80, and 90*

previously. In such a classroom the teacher and pupils are members of a cooperative group engaged in learning the things that schools were established to teach. The activities through which these things are taught grow cooperatively out of the needs and purposes of the pupils. In a rather ideal situation, the teacher and pupils work together in a social atmosphere of cooperative endeavor, of intense interest in the work of the day, and with a feeling of security growing from a permissive atmosphere of freedom to think, act, and speak one's mind with mutual respect for the feelings, rights, and abilities of others. Ideally, the inadequacies and shortcomings in both teacher and pupils would be admitted frankly and accepted as something to be overcome, not ridiculed. The varying abilities and strengths of the several group members would be recognized and used to the utmost to further group goals. A sense of proportion involving humor, justice, honesty, and concern for the feelings of others would be present. Group solidarity resulting from common goals, common efforts, common difficulties, and common achievements would characterize the class. In such a class, the teacher in his every word respects the feelings of the students, shows faith in their good will and intentions, recognizes the difficulties they encounter, and is confident of their ability and will to achieve their goals. The pupils constantly strive to prove to themselves that they are worthy of the high regard of the teacher and other members of the group.

CHARACTERISTICS OF DEMOCRATIC CONTROL

Until recent years, the techniques of democratic control received much less attention than did those of autocratic control.² Courses in classroom management at the turn of the century told in detail how to dominate a class by making assignments, hearing recitations, questioning, testing, evaluating, and reporting, with occasional recourse to punishments of various degrees of severity. Such techniques were the chief concern in methods classes for many years. Only now are the techniques of democratic procedure gaining in recognition. In many cases where they are discussed, it is done in terms of generalities that give little help to teachers to whom the method is new. In this chapter we will present some general-

¹ Willard C. Olson and William W. Wattenberg, "The Role of the School in Mental Health," *Mental Health in Modern Education*, 54th Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1955, p. 180.

² See George V. Sheviakov and Fritz Redl, *Discipline for Today's Children and Youth*. Washington, D.C.: Department of Supervision and Curriculum Development, National Education Association, 1949.

* Standards for a Good Conversationalist³

1. The conversation should be kept going:
 - (a) Keep on main points.
 - (b) Change the subject smoothly.
2. The people should be polite:
 - (a) Boys should stand when girls enter.
 - (b) If a boy and a girl start to talk at the same time, the boy should let the girl go ahead.
 - (c) If two boys or two girls start to talk at one time, the girl or boy who has talked more gives place to the one who has talked less.
 - (d) Only one person should talk at a time.
 - (e) Usually questions should be addressed to the group instead of to individuals.
 - (f) The people in the audience should not attract the attention of the people in the conversation group.
3. The host or hostess should be polite to the guests:
 - (a) The host or hostess should talk only when the conversation lags.
 - (b) The host or hostess should talk only to encourage the guests to talk.
 - (c) The host or hostess should greet the guests cordially.
4. Only people who have studied the *Weekly Reader* and read the local papers and listened to radio reports should accept an invitation:
 - (a) People should think as they read.
 - (b) People should be able to locate on the map places mentioned.
 - (c) People should look up difficult words.
 - (d) People should be able to give the source of their information.
5. People should talk about topics that are important now; that probably will be important for some time to come:
 - (a) Talk about the causes of war and how war affects the people.
 - (b) In connection with disasters talk about means of preventing them.
6. People should discuss sensible, interesting, and pleasant topics.
7. People should use good English:
 - (a) People should make themselves heard.
 - (b) People should pronounce words correctly.
 - (c) People should use correct expressions, e.g., the *reporter* instead of *it*, an *interesting conversation* or a *lively conversation* instead of a *nice time*.
 - (d) People should omit unnecessary words.
 - (e) People should try to add to their vocabularies all the time.

THE GROUP SETS ITS GOALS AND CRITERIA

After the group has discussed educational goals and the essentials of proper procedure, the conclusions they reach may be placed on the black-

³ Walter W. Cook, *Grouping and Promotion in the Elementary School*, Series on Individualization of Instruction, No. 2. Minneapolis: University of Minnesota Press, 1941, p. 14.

as well as by individuals with I.Q.'s of 110, 120, and 130. In the democratic classroom, the pupil with an I.Q. of 80 is as welcome as the pupil with an I.Q. of 120. Both should find valuable work they can do and both can be acceptable to the group.

6 *Secure groups do not need labels and trappings to give them prestige.* Usually, when a group is unified through common goals, common achievements, and common sufferings, there will be less emphasis on conformity insofar as clothes, badges, language, and standards are concerned. The imposition of a kind of mass orthodoxy in such matters generally indicates a feeling of insecurity in the group. They are essentially autocratic labels of prestige and may indicate autocratic group leadership. In groups where members feel secure in their membership, such constant assurances are not necessary. In a democratic group, each member feels that he is lending prestige to the group; he belongs because of his contribution, participation, and skill. In an autocratic group, the member feels that he draws prestige from the group to which he belongs, hence, the stress upon authoritative labels of prestige.

We can see among adult groups in our democracy a tendency to reduce the amount of formality and the use of special uniforms where they are not necessary. This does not mean, of course, that all pageantry is to be deplored.

• II. An Effective Group

DEVELOPMENT OF CRITERIA OF GOOD WORKMANSHIP

If the group is to make progress toward educational goals, by democratic procedures followed throughout the days, weeks, months, and years of working together, systematic planning is necessary and adequate records of progress and achievement should be kept. These records will provide a handy index of educational goals, and the procedures to be followed in achieving these goals. For example, they will serve as guides for future classroom conduct and will aid in the selection of learning units and the determination of correct standards for group discussion. Or they may be referred to if information is needed on preparing reports, on story-telling, oral reading, letter writing, study procedures, or other projects the class has developed. As an example, the following set of criteria was drawn up by a sixth-grade class to guide them in their conversation periods.

dren will plan and take responsibility for carrying out these friendly gestures with such enthusiasm that the coming of new pupils will be eagerly anticipated.

The pupils also can tell how they feel when they are not invited to play in a game or are not invited to a party, or when other children whisper secrets in their presence. Any and all forms of behavior that irritate and cause anxiety and insecurity can be brought into the open and discussed.

Facilitating and blocking group progress. In teacher-pupil planning, it is important that children ultimately become aware of the ways in which progress is made in group planning, and, also, of the ways in which progress is blocked. Such a recognition can be formulated through group discussion.

When is progress being hindered? Many signs are indicative of progress being retarded. Progress is slowed when a child begins to attack the status of another, disapproves of suggestions and contributions others make, refuses to participate seriously in class activities, or seeks to attract attention to himself through boastful and cynical remarks and persistent questioning.

Viewing a group of students casually, it is difficult to understand why an obviously able and imaginative child, eager to make suggestions, often is squelched by the others. Yet, common sense suggests that the less able and less imaginative students will defend their own sense of importance by taking down the bright student a peg or two. After the superior pupil has been ridiculed, rejected, or otherwise made to suffer, he may seek to reinstate himself with his classmates by playing the part of a clown or an outlaw, thereby seeking the approval of those who showed resentment in the face of his talent. In all probability, showing off and attempting to draw attention to one's self are displays of a child's need to feel accepted by the group. The elementary-school teacher who knows all of this may wish to help each child maintain independence in the face of the pressure to conform. Instead of punishing the student who distracts the group, the teacher may decide to help him as he seeks to establish himself.

When is progress being made? One of the best indications of progress is the development of a child to the point where he begins to show an awareness for the feelings of others in his group and tries by thought and action to understand the needs of every child in his class. Consequently, it should be regarded as encouraging when a pupil avoids misunderstandings in the class by restating and clarifying vague statements and stimulates other members to greater participation in discussions and class activities by encouraging them and helping them with their work. Progress also is being made when a pupil prepares and distributes materials that are helpful to the class in the achievement of its goals, or tries to relieve or com-

boards or the bulletin board, or may be mimeographed or printed on large sheets of oaktag paper for ready reference during the planning, execution, and evaluation periods. The lists of criteria serve as a guide to behavior and as a basis for action, and are revised as the children mature and new insights into the activity are gained. Children can set goals suitable for their level of understanding and performance that are educationally more useful than are those of many curriculum committees or authors of textbooks.

Pupil planning. Leadership in educational endeavor cannot be transferred to children until they are ready for it. What can be done at any grade level depends upon the previous experiences of the children. The social skills necessary for group cooperation—the ability to assume responsibility, to plan, carry through, and evaluate work—must be learned. An atmosphere in which children feel free to make suggestions, express opinions, and criticize procedure is the first requirement. Even in the kindergarten and first grade, the children can help plan many activities such as the arrangement of a play house, a post office, a grocery store, and other similar enterprises. They can help plan a tea for their mothers, a trip to the bakery, an interview with the principal, and rules for the use of play equipment.

By the third-grade level, the children can plan and carry through a program designed to show their parents what they have learned. The whole complicated program involving a master of ceremonies, a puppet show, the shifting of scenery, the telling of stories, gymnastics, and dancing can be executed by the students while the teacher sits in the audience with the parents.

PUPIL PLANNING AND SOCIAL LEARNING

In almost everything he does and says, the democratic teacher impresses upon his pupils the importance of respecting the feelings of others. He is careful never to injure the pride of his pupils, for example; and they, sensing his solicitude, in turn display a similar attitude toward others. Or, as part of normal classroom procedure, the teacher may arrange to have every child play a part of a new pupil in a strange school. Thus, the children come to experience some of the hesitancy and uncertainty that normally accompanies such a situation and will be more tolerant of the newcomer. Also, ways may be discussed for welcoming the new pupil to the school. This may involve helping him get his books, welcoming him into the games, and seeing to it that someone walks home with him after school and to school with him in the morning. Subsequent planning may include a suggestion that the new pupil be given an opportunity to tell about his previous school experiences, where he lived, and something about his family. Chil-

members for others in the group. It is the first step in revealing to the teacher the interactions of the pupils.⁵ Sociometric measures may help the teacher to discover the potential "leaders," the "isolates," and the children who seem normally acceptable and secure. Such insights may prove of great help when a teacher is faced with a child's clumsy attempts to win a place for himself in the class. If the sociogram shows that no child would select him as a playmate, it may be due to some aspect of his behavior. However, it is far from easy to unravel the reasons for a child's behavior. In searching for the causes, the explanations of behavior, a teacher is driven to use all the clues that can be gleaned from conversations in class with the students, from the child's cumulative record folder, from anecdotal records, and from visits with parents. When John may not wish to sit near Henry, it may be because Henry is from the "other side of the tracks" or it may be that he belongs to a racial group that John has been taught by his parents to despise. On the other hand, John's aversion may be for reasons even more obscure and subtle than these.

Seating charts are useful. Teachers who are successful with their sociograms may find that a seating chart, made out at the beginning of the year and revised at regular intervals, perhaps every eight weeks, can be of help. Its value depends on whether the teacher has been able to get a good idea of the "natural grouping."⁶ Some good teachers strive for a seating arrangement that provides one neighbor of his choice to each child. Seating children with their friends often increases academic production.⁷

CONSTRUCTING A SOCIOGRAM

The actual steps involved in making a sociometric test are not difficult. There are a few simple ground rules to follow. The teacher who chooses to make and utilize a sociometric test should justify it to the children in terms of an actual situation. The purpose may be to improve the seating arrangement of the children so that friends may not be separated. In any case, the teacher must *guard* the secrecy of the children's answers. Most sociograms are built from the written responses of children, indicating to their teacher their first three choices of companions (and, perhaps, at the bottom of their slips, the three *least* desired). These slips may be worked into a sociogram and the slips should be destroyed. They should never be

⁵ The use that an elementary school teacher can make of sociometry is illustrated in Chapter 21, "Marion Johnson—Teacher."

⁶ Helen Hall Jennings, "Sociometric Grouping in Relation to Child Development," *Fostering Mental Health in Our Schools*, 1950 Yearbook, Association for Supervision and Curriculum Development, 1950. Washington, D.C.: The Association, National Education Association, p. 203.

⁷ Ruth Cornelius, "Reading with Six-Year-Olds," *Childhood Education*, 26:62-163, December, 1949.

promise a tense situation with a humorous remark that clears the air, or records accurately the action of the class for future reference and guidance.

An effective teacher speaks. Earlier we noted typical remarks of an autocratic, hostile, and insecure teacher. A more effective instructor, one capable of enjoying work with youngsters, has learned how to help children who are not effective group members, who hinder the progress of the class. The teacher who tries to lead in supporting group spirit never ridicules a defensive or antagonistic child but is quick to help him regain status in the group.

1. "Some of us are having difficulty with this problem (*a problem in subtraction*) Subtraction is not easy. I wonder if there are some ways of making subtraction more easily understood?" (*The teacher is accepting subtraction as a real problem and is inviting all the class to suggest ways in which to approach it. No one experiencing difficulty is being singled out as a "dumb-bunny."*)

2. "You did a fine job of getting the room shipshape yesterday. Isn't it a pleasant place in which to live today? By the way, does anyone know what 'shipshape' means? Why do you suppose that ships' captains and the crews are so anxious to have things aboard ship 'shipshape'? Of course, when people have to live together in one room or a small place, work and play are more fun if there isn't a great clutter." (*The problem of replacing materials was no problem for this teacher. The group thought of the care submarine crews take to keep their confined quarters livable. Each child understood the need for keeping the room shipshape.*)

3. "We will have fun in the nice crisp air but fingers will be pretty chilly if mittens are forgotten." (*It is time for going out-of-doors. This teacher is not the type who berates a child for neglecting to dress warmly.*)

The teacher whose experiments cause students to respond in ways that facilitate group progress will be a happy teacher, loved by his students and respected by his colleagues.

• III. How Sociometry Helps the Teacher

Sociometry is the study of patterns of acceptance and rejection within groups.⁴ It undertakes to define and measure the likes and dislikes of group

⁴Norman E. Gronlund, *Sociometry in the Classroom*. New York: Harper and Brothers, 1959. An excellent, earlier study of sociometry is that of Helen Hall Jennings, "Sociometric Grouping in Relation to Child Development," *Fostering Mental Health in Our Schools*, 1950 Yearbook, Association for Supervision and Curriculum Development, 1950. Washington, D.C.: The Association, National Education Association, Chapter 13.

in order of preference. In addition, it may be suggested to the pupils that at the bottom of the card they jot down the names of those with whom they wish *not* to be seated. When and if this last instruction is given, it should be completely natural and off-hand. "Perhaps you would like to write down the names of three children with whom you would rather not be seated. I want to do my very best to seat you with the children with whom you wish to work. We all know that there are some children who are awfully nice but whom we do not like quite as much as certain others. We often change our minds about these things as time goes by, but right now let us see if we can make a very pleasant arrangement for the beginning of the new year."

After the slips of paper or cards are returned to the teacher, the first step is to tabulate the choices. One way of doing this is to write the name of each child, including absentees, on the left-hand side of a large sheet of paper that has been ruled off into squares. (Graph paper is excellent for this purpose.) The left-hand column lists the names of the children in their role as choosers. Across the top of the sheet list these names, but this time in their role as choices. Finding Grace's name in the left-hand column, trace across to a square under Patricia's name and place there a 1. Then by inserting a 2 and 3, indicate the second and third choices. Follow this procedure for every child in the class.

When this tabulation is complete, it will be a simple matter for the teacher to summarize who was chosen, once, twice, five times, or not at all.

• IV. Anecdotal Records

Anecdotal records are excellent supplements to the mass of objective data that modern schools generally have regarding each child. If properly prepared, an anecdotal record will do much to tell the child's own story and reflect his real feelings, worries and attitudes.⁸ If poorly arranged, it will consist only of a few meaningless (or even misleading) anecdotes that merely reflect the teacher's opinion of the personality and character of the child. The useful anecdotal record is one that will supplement the results of all other tests that have been administered to him. It may yield information that will help in gaining insight into the pattern of acceptance-rejection that exists in the classroom. To miss such an opportunity for greater

⁸ One of the best references on the use of anecdotal records as aids to understanding elementary-school pupils is Helen Bicker, "Using Anecdotal Records to Know the Child," *Fostering Mental Health in Our Schools*, 1950 Yearbook, Association for Supervision and Curriculum Development. Washington, D.C.: The Association, pp. 184-202.

made a part of the classroom file since children's choices in these matters are based on factors which are hard to determine and change greatly from day to day.

After the children have indicated their choice of companions, the teacher should promptly work out a new seating arrangement which reflects these choices. If Jim indicates that the fellow with whom he would prefer to sit is Henry, and Henry tags Jim as his selection, Jim and Henry should be seated near one another.

What of the *isolate*, the boy or girl whom no one chooses? He or she should be seated with his first choice. The chances are that the rejected youngster will be so pleased with getting his first choice that he will do his level best to please his "buddy"—the child whom *he* chose. This need not penalize the student chosen by the isolate since his own choices may be seated near him. The governing condition is that the object of the isolate's first choice shall not have rejected him previously. In *very* rare instances some one child is listed as "least desirable" by all other children; he is the complete isolate. In seeking companions for him, the teacher may sometimes be able to sense that he has a lot in common with some other child or he may know of one or two children in the class who display a good deal of compassion, gentleness, and generosity and who may accept the isolate. Sometimes the teacher may ask other children whether the isolate may be seated near them although, in most instances, seating changes are best arranged without conversation. Children rise to almost all occasions and, if the teacher discreetly rewards signs of generous acceptance, he will not be disappointed in placing confidence in his youngsters.

With these guideposts in mind, we may turn our attention to the procedure that is followed in introducing the class to the sociometric "test." In the first four grades, changes in the pattern of acceptance-rejection between pupils can be followed throughout the year by sociometric tests given at eight-week intervals or just before committees are regrouped for a new unit of work or a new activity. For the upper-elementary grades (grades 5 and 6) many authorities feel that sociograms should not be administered more than twice a year since the older children become too aware of the exercise as providing a pattern of rejection-acceptance and material for gossip.

The teacher must make sure that the children do not feel that a *test* is being administered; they should not be self-conscious in their choosing. The picture of acceptance-rejection will be meaningless if the choices and rejections are not made conscientiously and independently. The students should be told that a seating chart must be made and that each of them will have a chance to sit near a child whom he likes. Perhaps the teacher will give them cards on which to write the full names of three students,

sonality, to emotional drives, to unfulfilled hopes, or pressing worries belongs in the record.⁹ Many, many times the teacher can learn something of the child's attitude toward home life by listening to his conversation with a doll or a friend whom the child imagines to be his parents, or his older brother or sister.¹⁰

• An Inadequate Anecdotal Record

(Kindergarten)

Ray is a shy boy. I can't get him to like me, it seems. He does what the others do; but he does not react to me at all. His tests show him to be a little above average in ability, but he seems to depend on other children for most of his ideas.

His mother is nice, but a typical proud Mamma. Talks about Ray by the hour, but doesn't say much.

(First Grade)

I wouldn't call Ray shy. He's quiet. He doesn't listen to instructions. He is careless in doing as he is told but he isn't mean or bad.

(Second Grade)

Hasn't learned to read. Likes to play with toys and construction materials. Doesn't make very much. Won't try to learn to read. Isn't interested in drawing or in other children's projects.

(Third Grade)

Reads like a beginner. Won't try to read. Probably isn't well. Two times lately, Ray went home from recess without asking, on days his mother wasn't home. Won't tell why he did it.

(Fourth Grade)

Ray may be quiet, but he is irritating. He does little things to distract the other children. He pulled the wire out of the plug so the lights wouldn't go on at the proper time in our dramatization. He dug up the beans the children planted so that they could watch them sprout. He planted them at home and said they had sprouted there and he would bring the old things if anybody wanted them. He is very difficult and talks very little.

(Fifth Grade)

You have to watch Ray, but he is worse than some of the others. I let

⁹William E. Henry, "The Child Tells About Himself Through His Creative Products," *Fostering Mental Health in Our Schools*, 1950 Yearbook, Association for Supervision and Curriculum Development, Washington, D.C.: The Association, Chapter 15.

¹⁰Ruth Harley, Lawrence Frank, and Robert Goldenson, *Understanding Children's Play* New York: Columbia University Press, 1952. Clark E. Moustakas, *Children in Play Therapy*. New York: McGraw-Hill Book Company, 1953.

understanding may mean the loss for the teacher of the chance to lead the class toward mental health, happiness, and scholarship.

CRITERIA FOR JUDGING THE ANECDOTAL RECORD

As already mentioned, a good anecdotal record is one that reveals the feelings of the child and that includes a brief digest of many of his conversations, samples of his drawings or stories, examples of typical and atypical behavior with other students, and glimpses into his home and neighborhood life. Whatever appears in the record should be clear-cut, specific, factual, and (ideally) uncolored by the teacher's personal opinions. The teacher's private feelings about Rachel are altogether confidential and *never* appear in the anecdotal record. Rather than the teacher's sentiments, the anecdotal record carries such things as precise references to the time of day that a significant incident occurred, the persons who were involved, and the phases through which the incident developed—if it transpired over a rather long time.

The student of child growth and development will recognize that these criteria are almost the same as those that apply to any observation of behavior. The anecdotal record is subject to the very limitations that psychologists have discovered in connection with the biographical sketches of an infant's behavior compiled by parents or other untrained observers. These people obviously were well-intentioned, but they did not write all that they saw or all that they might have seen. Then, too, the reports did not cover a sufficient variety of behavior (feeding habits, sleeping habits) to permit reconstructing the total behavior pattern. If an anecdotal record is to serve the teacher or anyone else, it must be objective and characteristic of the child's over-all behavior.

PROCEDURE

Composing anecdotal records is no simple task. Each child must be considered by himself even though the record traces his interaction within the class. Generally, the teacher starts with the children whose problems interest him. There was a time when anecdotal records dealt with children who were in trouble. Now, teachers often begin by keeping anecdotal records of pupils with outstanding characteristics. Modern teachers make it a practice to write about any incident that involves any child when it seems that the incident may affect the child, disclose his character, or in some way throw valuable light on his potentialities for the use of some teacher in the future.

The anecdotal records should contain more than the report of a variety of situations in which the child played an active role. Any clues to per-

effort made to find out the reason for Ray's skipping school was to ask him about it. Had he given reasons, they might not have been the real ones, but would probably have been useful in providing leads to the source of the trouble.

We are not told anything about his achievement outside of reading. Such matters as Ray's health, his early childhood, and his basic social and organic needs, fears, emotions, and motives were completely neglected.

The tripping incident is highly significant, and we are told little about it. Why did he trip Robert? Could it have been someone else just as well? Was this typical or unusual aggressiveness? Ray probably did not think of a broken arm or other serious consequences, but after the arm was broken, it may have been more serious to him than to Robert. Did Ray feel guilty because of it? Was he rejected by his group more than ever? Did it inflate his ego? There are thousands of possibilities, the least probable one being that Ray learned a good lesson from it. Did Ray's behavior get worse after the tripping episode took place?

It should be emphasized that this record, though rather poorly put together, is still better than nothing *if it is not misinterpreted* by the teachers into whose hands it falls.

An anecdotal record, to be of value, should be made up of little revealing stories. It should tell something that might be used in helping the child. Illustrations of how a teacher may start and build up anecdotal records while the class carries on its activities are given in Chapter 21, the story of the teacher, Marion Johnson. Anecdotal records, in their most valuable form, will reflect a knowledge of much that has been provided as background thus far in this book. Such records do not necessarily have to be exciting or dramatic. Many of them are orderly, helpful records about the abilities, interests, and activities of normal children.

• Discussion Questions

1. Observe a teacher working with a class and make a record of the teacher's statements. Classify these statements into three categories: (1) those indicating autocratic or authoritarian attitudes toward children, (2) those indicating democratic attitudes toward children, and (3) those that cannot be classified.
2. Make a list of statements made by teachers that impart confidence to children, lift their spirits, and increase their eagerness to achieve.
3. Make a list of statements made by teachers that depress and discourage children.
4. Observe children at free play. They may be playing house, grocery store, cops and robbers, Indians and cowboys, and so forth. Make an objective

him know I'm boss. His achievement is low for his ability. He won't try to learn. His sight and hearing are sound.

I talked to his mother. You can't tell her he isn't perfect. She says we don't understand Ray. She's right! I don't think she is a good influence on Ray.

(Sixth Grade)

Ray skipped school two days the first week. Didn't go home. Won't say where he was. Won't listen when you try to talk to him.

Last week he tripped Robert on the stairs. Robert's arm was broken. Robert never fights or causes trouble so it must have been Ray's fault. The Principal took Ray into the Superintendent's office and perhaps they can do something with him.

Ray has been a terror lately. He doesn't do any of his work. Just scribbles. He doesn't sass me. Just pays no attention. He doesn't fight. It's just the underhanded things he does.

He skips school more frequently this spring. Seems to want to be alone. . . .

This record certainly gives an unfavorable story of a young boy. Let's see what we would get out of it if we were to have charge of Ray in the seventh grade. We would see that Ray started out as a shy child who didn't make friends with his teachers, and was content to take his cues from the other pupils. He didn't learn to read as early or as well as most children. According to the teacher's standards, his work was desultory. He began to skip school in the third grade, and in the fourth, revealed a clear negativism toward the projects of the other children. These tendencies increased. He was not openly disruptive, but quietly rebellious.

The record does not tell us much that will serve as a basis for helping Ray. It contains very little about his intelligence or his ability, and almost nothing upon which to base a guess concerning his real interests. We are not told how he behaved on the playground or in other specific instances. There is something about his mother, but nothing about his father, home or socio-economic status. No clue exists to his physical condition except the third-grade teacher's note, "Probably isn't well." There are but few specific illustrations of his conduct and these are concerned only with violations (skipping school, tripping Robert, the incidents with the wire and the beans). The rest of the remarks are general and not very revealing.

Ray had gradually become a "bad" boy (in the judgment of a succession of teachers), but there is no explanation for this development. What, if anything, was done to interest Ray, to help him find his place in class, to gain his trust, affection, cooperation, and approval? How did his group react to him? Did he have any friends or enemies? Apparently the only

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- record of what one or more children do that you believe gives insight into feelings, beliefs, attitudes, fears, hates, or anxieties. Discuss these in class.
5. Recall teachers you have had who experienced considerable difficulty with "discipline" and other teachers who had few disciplinary problems. Analyze as best you can the behavior of the teachers that caused the difference in pupil responses to them
 6. Give reasons why respectable individuals who tend to be hostile to people generally hold closely to conventional virtues.
 7. Discuss the proposition that children who come from authoritarian or autocratic homes need authoritarian teachers and children who come from democratic homes need democratic teachers. Do you agree or disagree?
 8. Defend the proposition that the behavior of a child can be explained in terms of the personalities of his parents and teachers. Criticize the same proposition.
 9. Observe a committee meeting or a teacher-pupil planning session and make a record of the contributions that furthered the work of the group and of those that hindered group progress
 10. Give reasons why it might be undesirable for a teacher to become too concerned with group dynamics, sociograms, anecdotal records, projective techniques, sociodrama, psychodrama, and the like. What are the dangers of a little knowledge in this area? Should this vocabulary be used in discussion with parents or pupils? Write the meanings of these terms in simple language that any teacher or parent would understand.
 11. Discuss the proposition that the most important single factor in determining classroom atmosphere, and the degree of learning that goes on in the classroom, is the personality of the teacher.

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Dress may or may not indicate social difference, depending on the community. But even such artificial and offensive "social" barriers between children often fail to develop or are soon overcome where children learn to respect one another through working together in learning situations that are mutually rewarding.

The curriculum is affected by the attitudes toward education held by parents and children alike. Apparently not all groups in society are equally interested in the elementary school—or in education at any level. For example, one segment of our society may be very interested in the elementary school program, willing to support higher salaries for teachers, extensive testing, remedial instruction, and the PTA. These interests appear to be related to the total pattern of beliefs and values that sociologists call the "value system" of the so-called middle class. Men and women of this class look upon the curriculum of the elementary school as affording experiences through which their children are prepared in academic subjects while being guided also to civilized attitudes toward others, the acquisition of gentle manners, and the development of a wide variety of interests.

Those responsible for the elementary-school curriculum must always be well aware of middle-class values and middle-class behavior. But there are other values. There are lower-class values and lower-class ways of behaving. Many children come from homes in which the lower-class values and patterns of behavior predominate and cannot be overlooked. There are upper-class values and ways of living. In some communities, the children of the upper classes attend public schools. In others, it is exceptional when they do.

Perhaps enough has been noted to suggest that the basic assumptions of this chapter are that (a) American society is stratified into social classes; that (b) a parent's, teacher's, or student's social class "identification" is a major determinant of his attitudes toward school (see footnote 1 on following page); and that (c) some of these attitudes have marked effect on the elementary-school curriculum and on the critical problem of juvenile delinquency. The argument of this chapter is an extension of these assumptions.

One might exaggerate the influence on an individual of social class and his identification of himself as belonging to a social

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SOCIAL CLASS AND THE

middle-class experiences seem unrealistic to lower-class children. The most disturbing points made by Davis and those who joined him in the study of the social class influences upon the curriculum⁴ were those suggesting that true communication often was lacking between teachers of middle-class family background⁵ and youngsters with other backgrounds. These investigators call attention to the difference in middle- and lower-class attitudes toward children fighting, acting contrary to regulations, winning good marks, or being punctual. Teachers must ask themselves about their own attitudes toward children from different social-class backgrounds.

THE STRATIFICATION OF SOCIAL CLASSES

Although all sociologists agree that there are strata in American society, they differ on the criteria to use in placing any single individual in his appropriate class.

W. Lloyd Warner and those who have followed his lead assign "class position" to individuals on the basis of what others in the community say of them. For example, there must be general agreement among those who know a man that his work, his friendship, and his place of residence place him in one of Warner's six classes (upper-upper, upper, upper-middle, lower-middle, upper-lower, and lower-lower).⁶ This is a subjective but not haphazard means of classification and it is probably adequate in communities small enough to permit proper identification of individuals.

There are serious objections to almost all studies that have been done on social stratification; teachers must be very much on guard when reflecting on the implications of reports on social class. They should know that the communities studied by the Warner group are generally small (from 6,000 to 17,000), and both old and static. There is reason to question the applicability of the classification system to dynamic communities whose population is less than 5,000 or more than 17,000. Literature about social stratification is suggestive but does not report conclusive results. There are

class. How important it is, we do not know, but through interpersonal relations with friends, classmates, teachers, and parents, the child shapes his perception of himself as a certain kind of a person and as a member of certain groups, with certain characteristics that are more or less common. This chapter highlights social-class influences, as other chapters underscore other interpersonal relations.

• Social Class Influence on Education

Is there equality of opportunity for all social classes? Modern research into social stratification began to attract wide attention after 1940. However, it was not till 1948 that a book appeared especially addressed to social-class influences on education.² This was Davis' book, *Social Class Influence Upon Learning*. Among the more provocative generalizations made by Davis was the declaration that American schools deny equality of opportunity to children. Children from homes in the lower socio-economic classes, Davis wrote, had less opportunity than was afforded children from middle-class homes. Intelligence tests were offered as a case in point. Most intelligence tests, he claimed, are culturally biased; they contain words that are more common in a middle-class environment than in the surroundings of the lower classes. The word "sonata" was given as an example. "Sonata" would not be found, he felt, in the vocabularies of lower-class children. Lacking appropriate vocabulary to do well on the tests, these children might be thought to be "slow learners."

Davis charged that in addition to intelligence tests, textbooks such as elementary-school readers are "unfair" to children from the lower classes. He held that many of the stories, and the illustrations as well, are about experiences unknown to lower-class children. On the other hand, many of the practical activities that are familiar to lower-class children are not recognized in the curriculum. For example, many elementary schools have reading, writing, and arithmetic, but no woodworking, no use of tools, and very little reference to the work-a-day world.

In their study, *Child Development and Personality*, Mussen and Conger³ illustrate Davis's point and lend it emphasis. They point out that typical

¹ "Identification" with a social class means that an individual or group accepts without self-consciousness or intention, the values, aspirations, and style of life characteristic of the social class. See Allison Davis, "Personality and Social Mobility," *School Review*, 65, 134-143, Summer, 1957.

² Allison Davis, *Social Class Influence Upon Learning*. Cambridge: Harvard University Press, 1948.

³ Paul Henry Mussen and John Janeway Conger, *Child Development and Personality*. New York: Harper and Brothers, 1956, p. 387.

some of the fathers and husbands will be critical of the schools for being "too permissive," lacking stiff standards and competition. The mothers and wives tend to go along with the program of instruction in modern elementary schools where the views of child development are like the ones they have accepted as best in the home. They will approve warmth as a proper quality of teacher-student relationship. They will agree that the teacher, as the parent, should be consistent, fair, encouraging, and supportive.

The upper-middle-class male: attitudes toward school and other characteristics. There are more men (and women) in the upper-middle class than ever before. Aside from the years of prosperity following World War II, this increase probably has been due to the proliferation of management and expert, technical personnel in both industry and business. The compounding of these forms of employment has been caused by technology, on the one hand, and on the other by the need for executives and managers who can work with problems of production, personnel, and distribution.

Even superficial inspection of careers of middle-class men in business and industry reveals their *mobility*. Promotion, which carries the family upward through the strata of social classes, comes with the transfer of the worker from one office or assignment to another. Few executives have come up through the ranks at any one local or branch office. They move about, and they learn about the corporate enterprise as it may be dispersed over many states (or nations).

Diligence and systematic planning of careers are necessary for success; family connections alone cannot be counted on for promotion in the vast number of large, impersonal corporations. The time and thought asked for by the corporation, the business, the industry, or one's clients and patients, are such that a man's domestic affairs may become *peripheral* for the upper-middle-class male.

Competition and success in the upper-middle-class male career. The upper-middle-class male, on his "way up," knows something about competition. At no time in his career is his position fully secured. He must keep alert, productive, and "ahead of the game." When his thoughts turn from his own career to those of his children, he hopes they are being prepared with the knowledge, skills, and manners that he believes necessary for successful competition in life. So it is that the "typical" upper-middle-class man believes that success in school competition *insures a successful career*.^{*}

Among these parents will be some who are convinced that the school is

* John R. Seeley, R. Alexander Sim, and Elizabeth W. Loosley, *Crestwood Heights—A Study of the Cultures of Suburban Life*. New York: Basic Books, Inc., 1956, p. 118. "To people of Crestwood Heights, the career is of all concerns the most momentous. It may be called "success" or "getting ahead," or "doing well."

many differences of opinion about the nature of social classes, their criteria or symptoms, and their incidence in different types and sizes of communities.

• Characteristics of the Social Classes

THE "LIFE STYLES" OF SOCIAL CLASSES

Sociologists agree that the various social classes have a distinct "style of life." Their members may live in the same neighborhood—along High Street that runs the length of the ridge overlooking the river—or in a modern suburb. Much of the recreation within a class comes through membership in the same clubs, fraternal organizations, or other groups. The men lunch together, in the plant or at the club. Their families visit, have meals together, and fraternize in many ways. They have many of the same types of problems and of interests. All in all, there is a high degree of identity in their values and attitudes.

The upper-upper and lower-upper classes. The upper group comprises a small proportion of the total population. There is no essential disagreement among sociologists in identifying the membership of the top ranks of the social classes. The members usually have a high income, though some who have the "name" but not the income may cling to their class for a generation or two.

The upper-middle class. In many ways, educators may be more interested in the upper-middle class than any other. Here are to be found the most highly educated people and those most firmly committed to the value of education. Until very recently, however, there was a lack of first-rate studies of the upper-middle class. The publication of *Crestwood Heights*⁷ provided the first comprehensive social study of the upper-middle class.

Teachers in elementary schools have found upper-middle-class parents eager to provide the best possible environment for their children at home and at school. It is an informed interest that they have; a large percentage of the wives in upper-middle-class families read books and articles written for educated laymen who desire knowledge of the "best" child-rearing and teaching practices.

Joined with the desire for superior educational advantages for their children goes the wish that the children succeed in school. Many upper-middle-class parents come to parent-teacher conferences, PTA meetings and assemblages of citizens' committees for education. Oddly enough,

⁷ John R. Seeley, R. Alexander Sim, and Elizabeth W. Loosley, *Crestwood Heights—A Study of the Cultures of Suburban Life*. New York: Basic Books, Inc., 1956.

parents and the general public. For example, postponing an academic exercise in reading or arithmetic until a child matures a bit appears to the anxious upper-middle-class parent as holding the child back. On the other hand, double promotions and skipping grades are attractive to parents.

The upper-middle-class parent desires a report card with grades that tell where his child stands in *his school class*. The report card grade is obviously less useful than a conference with a teacher who would have available samples of the student's class work, achievement test scores and notes on his work. Yet many parents (perhaps many of them upper-middle class) desire the one and make no demand for the other.

• Contrast of Middle-Class and Lower-Class Attitudes Toward Education

Much of what has been said of the upper-middle class will hold, in some degree, of all the middle class. This is a class which embraces those who own and operate small retail businesses and small to medium-sized farms or are skilled craftsmen, foremen, or clerks. The middle-class is the largest of all the social classes. It has grown each decade since the turn of the century. On April 2, 1939, the Gallup Poll took a sample of the social class to which people felt they belonged—middle-class or upper or lower. Eighty-eight per cent of those responding said that they thought of themselves as middle-class.¹⁵ As the upper-middle class has swelled with technical, managerial, and professional workers, additions have been made to the remainder of the middle-class by clerical employees needed in the administration, planning, regulation, and control of the "modern production-distribution complex." Big government at the municipal, state, and federal level has added its bit.

The growth of the middle class has caused a corresponding shrinkage of the size of the lower class. Yet there are millions of lower-class citizens with children in our schools. Increases in purchasing power have made the lower classes able to afford more of the luxuries formerly reserved for the middle and upper classes, and more years of schooling for their youngsters. The attitudes, values, expectations, and typical experiences of the lower class *must be taken into account for the desire to "better" one's position* is pervasive in American culture. Many sociologists believe that the difference between the middle-class drive and the lower-class drive to climb the social ladder is only a matter of degree.

Lower-class participation in school management is small. In the United

¹⁵ "American Institute of Public Opinion Survey, 1938-1939," *Public Opinion Quarterly*, 3:581-607, 1939, p. 604.

not doing enough to hold youngsters to high levels of achievement. These parents sometimes become vociferous critics of public schools. They are eager that their children, especially their boys, be armed for the competition that lies ahead. Joined with this criticism is a manifest willingness to support the schools.

The upper-middle-class man expects achievement, competition, and discipline in the school. One of the more eminent American sociologists has written that the upper-middle class is to be distinguished by the expectation that its children will have a college education.⁹ Apparently this expectation has more to do with college education being of assistance in qualifying for acceptable, high-level occupations than it does with a belief that man should be sophisticated.¹⁰

The road to college begins in the elementary school. The upper-middle-class father believes that the curriculum of the elementary school must afford intellectual and moral discipline as well as training in the three R's. His response to a school that "works" his youngster is to apply pressure at home for keeping up marks. The middle-class parent, when he becomes worried about his son's competitive position, will compare him with other boys.¹¹ This pressure is not always improper.¹² However, common sense suggests that parental pressure is excessive when it asks the impossible of a child, when it demands what he cannot produce and, surely, when failure brings rebuke and coldness. Further trouble often results when, despite the pressure, the child is unable to do the work.¹³ The school is often blamed when this happens.

Thus, there is some likelihood that an elementary-school curriculum built with the developmental point of view¹⁴ will need to be interpreted to the

⁹ Talcott Parsons, "A Revised Analytical Approach to the Theory of Social Stratification," Reinhard Bendix and Seymour Martin Lipst (editors), *Class, Status, and Power*, Glencoe, Illinois: The Free Press, 1953, p. 124.

¹⁰ John R. Seeley, R. Alexander Sim, and Elizabeth W. Loosley, *Crestwood Heights—A Study of the Cultures of Suburban Life*, New York: Basic Books, Inc., 1956, p. 118.

¹¹ Arnold W. Green, "The Middle-Class Male Child and Neurosis" in Reinhard Bendix and Seymour Martin Lipst (editors), *Class, Status, and Power*, Glencoe, Ill.: The Free Press, 1953, pp. 298-299.

¹² Eric Hamburger Erikson, "Growth and Crises in the 'Healthy Personality,'" Clyde Kluckhohn and Henry A. Murray (editors), *Personality in Nature, Society, and Culture* (second edition), New York: Alfred A. Knopf, 1953, pp. 185-225.

¹³ John R. Seeley, R. Alexander Sim, and Elizabeth W. Loosley, *Crestwood Heights*, New York: Basic Books, Inc., 1956, p. 281. A very provocative book calling attention to the possible effects on personal values that striving for "social" success (status) may have has been written by Vance Packard, *The Status Seekers*, New York: David McKay Company, 1959.

¹⁴ The phrase "developmental point of view" implies a curriculum that is flexible, tempered by a realization that children differ in the rate of development in one trait or another. This point of view is accepted by the authors of this book and characterizes the argument of many of the chapters of the book.

costs" in attending school. Though these "hidden costs" are far less in the elementary school than in the high school, they do exist and add to the burden on those lower-class homes in which there is real poverty, many children, or less than optimum drive for an education.

The absence of great numbers of lower-class parents from PTA meetings and from lists of candidates for election to the school board may result from shyness rather than any hostility or indifference to the school. Reluctance to mix with persons of higher status may keep the lower-class mother from PTA meetings. She may be most conscious of her cheap clothes and her poor grammar. Elementary-school teachers and administrators are challenged to explore means for overcoming this embarrassment.

SUMMARY STATEMENT ON MIDDLE- AND LOWER-CLASS ATTITUDES RELATING TO EDUCATION

The "value system" frequently found in the lower classes puts less emphasis upon the traditional high success goals and upon the means to achieve them than does the value system of the middle class. The lower classes have an increased awareness of their lack of opportunity to achieve success.

The lower-class boy or girl tends to be raised in an environment that does not prize the kind of achievement that leads to recognition and a higher income, to middle-class status and "style" of life. The lower-class value system involves less emphasis upon goals which are necessary for success. Actually, this means that the elementary-school curriculum of academic knowledge, skills, and the social amenities is not highly prized by many lower-class parents. Fortunately, many children from homes with low economic status have parents with middle-class identifications. This makes the school's task easier.

Apparently one reason why children from middle-class homes are more readily taught is that children from the middle and upper classes encourage each other to succeed in school, whereas not a few lower-class children are discouraged by their friends from any attempts to succeed academically.¹⁸ Many teachers know of the fear of the lower-class boy that his friends think him a sissy if he does what the teacher says.

ACCEPTING YOUNGSTERS WITHOUT REGARD TO SOCIAL CLASS

Most teachers are from homes in the middle class or in the upper-lower class. W. Lloyd Warner is quite specific in locating teachers in the middle

¹⁸ Paul Henry Mussen and John Janeway Conger, *Child Development and Personality*. New York: Harper and Brothers, 1956, p. 385.

States, the school curriculum is not thought of as something conceived by professionals and foisted upon the community. Through such organizations as school boards, citizens' committees, and parent-teacher associations, the public shows its interest in, and its control of, the public schools.

Citing research done by the Research Division of the National Education Association, the authors of *Social Foundations of Education* tell us that school board members tend to be selected from the upper socio-economic levels.¹⁶ The opinion reinforces the conclusions of the Research Division of the National Education Association and of W. Lloyd Warner and his associates.¹⁷ Warner and associates said that in Jonesville, theoretically, any resident adult may be a candidate for the school board, but in practice, the members of the board of education come from the two upper classes. By custom, in Jonesville only men are eligible; Catholics, Jews, Irish, and Democrats are passed by; but the board is "non-political" in the sense that its members are always conservatives.

That the school boards of smaller communities and, perhaps, cities are in the hands of the middle class need not mean that schools are being controlled in the interests of the middle and upper classes *to the exclusion of the interests of the lower classes*. True, this is the implication of some literature on social-class influences on education. Much of this literature presumes that members of the upper classes exploit the lower classes. Examples of selfish and predatory behavior are always to be found, but it is unduly pessimistic to assume that such selfish motivation lies back of the widespread willingness of citizens to serve on school boards. So, too, it fails to acknowledge the humanitarian drive of middle-class "service" organizations.

Does the lower class feel involved in the school? Apparently it does not. There is little evidence pointing to a desire to participate in the support and control of the school by the lower classes. There are several possible explanations for this "no-interest" attitude on the part of many lower-class parents, but it is difficult to be certain about them. If the school does not have courses that are obviously preparatory for a vocation, it may seem impractical to lower-class adults. Perhaps they wish their children to be able to qualify for semi-skilled occupations by the age of 16. Harold Hand and others assure us that one real reason why poor, lower-class families hesitate to urge education on their children is that there are many "hidden

¹⁶ William O. Stanley, B. Othanel Smith, Kenneth D. Benne, and Archibald W. Anderson, *Social Foundations of Education* New York: The Dryden Press, Inc., 1956, p. 231 and Chapters 5, 6 and 7.

¹⁷ Lloyd Warner and Associates, *Democracy in Jonesville* New York: Harper and Brothers, 1941, pp. 194-195. For an example of a very different point of view from Warner's see Roger G. Barker et al., "There is No Class Bias in Our School," *Progressive Education*, 27:109-110, February, 1950.

over, in the project, families are often broken, with one parent gone for one reason or another. All this the elementary-school teacher can learn for himself if he teaches in a school bordering on or in an area where there is a high incidence of "dependent families," broken homes, chronic unemployment, and unemployability, and a feeling of futility and resentment. All we ask is that the teacher try to fortify his patience with understanding and compassion.

Rejection of upper-middle and upper-class children may seem unlikely, but it can happen if a teacher feels these children to be spoiled by the luxury of their environment. A few teachers in wealthy suburbs may be subject to feelings of resentment when observing the homes, boats, and other possessions of the parents of their students.

Rebuff of upper-class children is not as likely to occur as is rejection of lower-class children or, more accurately, children whose attitudes and behavior bear the marks of lower-class identification. Research on the attitudes of teachers toward children of lower-class homes is not complete enough to permit generalization, but the uneasy position of the lower-class child is suggested from the fact that other children, if they are from homes of higher social class, tend not to accept him, as Neugarten found in the "Jonesville" study.²¹ Children tend to admire those higher in the social scale.

If the way is to be eased for the lower-class child, teachers must discipline their own attitudes, help the lower-class youngster to feel at home in the classroom, and work at adjustment of the curriculum so that the experiences of the lower class are somehow recognized. Mussen and Conger agree that the current academic curriculum favors the middle-class child. "In addition, the fact that the lower-class child cannot meet the demands of the school environment as easily as his middle-class contemporary often makes the lower-class child feel discouraged about the whole matter of education."²²

Few sociologists have applied themselves more assiduously to understanding and helping the lower-class child in school than has Allison Davis. His admonishment is to be taken seriously if the teachers of the elementary school hope to be effective with the children of the lower classes. Writing on "American Status Systems and the Socialization of the Child," Davis says that the task of winning lower-class children to "proper" deportment,

²¹ Robert J. Havighurst and Bernice L. Neugarten, *Society and Education*, Boston: Allyn and Bacon, Inc., 1957, p. 118. There is an important discussion of "class awareness among elementary-school children" in William O. Stanley, et al., *Social Foundations of Education*. New York: The Dryden Press, Inc., 1956, pp. 243-247.

²² Paul Henry Mussen and John Janeway Conger, *Child Development and Personality*. New York: Harper and Brothers, 1956, p. 387.

class. In the town, "Midwest," 98 percent of the teachers were middle class; in "Yankee City," the percentage was 97; and in "Deep South," the percentage was 92. On the other hand, approximately 60 percent of the students were lower class, 30 percent lower-middle class, and only some 10 percent were upper class and upper-middle class.¹⁹

Doubtless, a large majority of teachers will identify themselves with middle-class values and attitudes. This being true, teachers have an obligation to avoid being "short," cool, or impatient with children from social classes either lower or higher than their own.

Perhaps only a very few teachers are impatient with children of lower-class origin. Those who are may be unconscious of it. Indeed, if a child appears to be from a family that is unable to give him suitable shirts and trousers, if he seems not to have had a good breakfast when he comes to school, teachers will rally and do what they can, some even if it means taking money from their own pockets. All of us with experience in the elementary schools have seen this happen. There is no problem if the "poor" boy or girl is *likable*. But there are children who have not developed attitudes that make them likable. Some of these children are old beyond their years, cynical and tough. If they were not tough, the odds against them are so high that they would be crushed. How can elementary-school teachers get to know of these children? There is no single answer to this question. Visits to the homes are sometimes helpful, but it may be difficult to schedule visits. Teachers who visit in homes and who hold conferences with parents should have some special training in how to do both. Some visits could turn out to be unpleasant. Some homes should be visited first by trained school social workers (visiting teachers). In some homes there will be dirt and rudeness, appalling and frightening.²⁰ But even the experience of walking in the "impossible" neighborhoods may prove to be an eye-opener to teachers who have never seen the dreariness of unpainted slum houses or badly-ventilated, unclean tenements or apartments!

In most cities, a start has been made toward eliminating substandard housing. Blocks of tenements have given place to great housing projects. It must be remembered, however, that many who live in these projects are the same people who lived in the substandard homes. It will take time for some of them to assume middle-class ways of living. Visitors are appalled to find that recent slum-dwellers do not always take good care of the fine housing project in which they are "privileged" to live. Of course not (the habits that were developed in the slum do not disappear overnight). More-

¹⁹ Robert H. Havighurst and Bernice L. Neugarten, *Society and Education*. Boston: Allyn and Bacon, Inc., 1957, p. 359. Chapter 16, "The Social Origins of Teachers," further develops the views of Havighurst and Neugarten.

²⁰ This is not always limited to lower-class slum districts.

THE IMPORTANCE OF FEELING
"ACCEPTED"

Men become civilized through a process of socialization. In this process, the young are rather more dependent in all ways than are adolescents and adults. Certainly they are less capable of the sense of interdependence that emotionally mature adults are capable of feeling.²⁷

It seems firmly established by the inquiries into the causes of juvenile delinquency that juvenile delinquents have not identified (again, in the psychological sense) with modes of behavior that the adult middle-class society maintains to be good. There are several reasons why this might be so for any given youth. An obvious one would be that he accepts the attitudes and values of his family. He resembles his parents who "act out their hostilities," fight, lie to social workers and police about their own or their children's delinquencies, and who have a low opinion both of conventional middle-class orderliness, thrift, steady work, and the sanctity of private property.

Conceivably, another "cause" might be that the youth rejects the middle-class values and aspirations of his family in favor of those of his "street-corner" pals. In this preference, "rejection" may be caused by such things as a father's bullying or a mother's refusal to permit her boy to act in what he feels is a two-fisted, manly way.

Emotional insecurity may cause lack of identification with current standards. This may result from rejection by parents or teachers or isolation by his peer group—the children of his age, his school and neighborhood companions, who normally would be expected to figure prominently in his social life. On the other hand, children tend to accept the standards of those whom they love and admire. This is the meaning and the importance of acceptance.²⁸ The elementary school curriculum must provide for the "acceptance" of children. This will help forestall the need for acceptance by some less constructive group since the delinquent who is angry or mixed up or lonely and in need of companionship may regard almost any price as a fair price for acceptance.

Acceptance by classmates cannot be expected routinely but understanding and acceptance by a teacher can. It is not necessary to condone improper behavior in order to accept the child as a person who is important and precious. It is part of an elementary teacher's professional equipment

²⁷ Reynold A. Jensen, "Emotional and Personality Development," Robert H. Beck (editor), *The Three R's Plus*. Minneapolis, Minnesota: The University of Minnesota Press, 1956.

²⁸ Association for Supervision and Curriculum Development, *Fostering Mental Health in Our Schools*, 1950 Yearbook. Washington, D.C.: The Association, 1950.

and regular attendance can be accomplished by the school that rewards them properly.²³

There is no set formula for rewarding the efforts of lower-class children to win prestige. The thing to remember is that the child who does not find reward when he strives tentatively to improve may soon grow discouraged and give up trying. Some will begin to experiment with truancy. Many will drop out of school as soon as the law allows them to. Some few will resort to unruly behavior in school and elsewhere.

• Juvenile Delinquency, Social Class, and the Elementary School Curriculum

Delinquency has its roots in early childhood. It is customary to think of juvenile delinquency as a problem of high school boys and girls, not of youngsters. Evidence recently brought to light forces us to revise our view. Among well-known students of delinquent behavior are the Gluecks, in whose book, *Delinquents in the Making*, one reads that one-third of the group of five hundred boys studied performed their first serious misbehavior in school *at the age of eight or earlier*. The average age of the delinquents at the time of their first serious trouble was 9.5 years.²⁴ Mussen and Conger found that about 60 percent committed their first offenses before the age of ten and that early environment including early parent-child relationships were important factors in bringing about delinquent behavior.²⁵

WHO ARE DELINQUENTS?

For the present discussion, a delinquent is a youth who behaves in such a way that he or she might be said to be either breaking a law or behaving with extreme hostility, demonstrating a thorough-going negative attitude toward adult society. Juvenile delinquency is more common among boys than girls according to Albert K. Cohen. There are delinquent girls but the chances are four to one that the delinquent is a boy. There is always the question, of course, as to the real basis for the statistical differences between male and female delinquency.²⁶

²³ Allison Davis, "American Status Systems and the Socialization of the Child," in Clyde Kluckhohn and Henry A. Murray (editors), *Personality in Nature, Society, and Culture*, (second edition), New York: Alfred A. Knopf, 1953, p. 468.

²⁴ Sheldon and Eleanor Glueck, *Delinquents in the Making*. New York: Harper and Brothers, 1952, p. 202.

²⁵ Paul Henry Mussen and John Janeway Conger, *Child Development and Personality*. New York: Harper and Brothers, 1956, p. 436.

²⁶ Albert K. Cohen, *Delinquent Boys*. Glencoe, Illinois: The Free Press, 1955, pp. 37-45.

of owning a nice home, and of working in a nice clean office. We may speak with distaste of slum areas and their dwellers. Obviously we want him to lead a better life than that of his parents, but we do not want him to lack self-respect, give up, or become delinquent.

Helping students to be successful. Children who are truant and who later drop out of school all too often are those who have been academically unsuccessful, have found the school an unfriendly place, and have not been helped to overcome their evident lack of skills. It is not enough to love children in the abstract. The curriculum must be adapted to individual differences, including those that result in unsocial behavior. It must be designed to elicit real effort to learn. The things to be learned must have meaning for the learner in terms of the kind of a life that he hopes to live. Then, the learner must experience success and must place a value on success.

• Discussion Questions

1. Do you think it possible to describe social classes in the community in which you grew up? If so, what would you say were the chief characteristics of the ways of living and of the values of the different classes?
2. Would you agree with the view expressed in this chapter that middle-class families place a premium on education? If so, are you encouraged to do more as a teacher by way of discussing children's educational progress with the parents?
3. How might you adapt instruction to the culturally disadvantaged lower-class child? How might you take advantage of suggestions advanced by Allison Davis?
4. Do you think that if you took Allison Davis seriously, you would reduce the amount of reading that you expect youngsters to do? Why or why not? (In discussing the question, ask yourself whether learning to read would be as useful to children from lower-class families as to children from middle- and upper-class homes. Consider in this respect the demands that are made in a society increasingly characterized by technology and a society whose jobs require technical training.)
5. What are some of the differences between the values held by lower-class and middle-class families? How might these affect children's attitudes toward school, toward teachers, toward their studies?
6. What is meant by the phrase "life style"?
7. What can you say in favor of what the authors of *Crestwood Heights* think to be the views on education held by the adult males in Crestwood Heights? What might be the undesirable consequences of an elementary-school teacher accepting those views?
8. Do you believe that "success" is an important value in American culture? How do you think "success" should be defined? If you think "success" to be a value held in American culture, do you believe that seeking it can

to be able to help children change without rejecting them at any stage in the process

ACCEPTANCE BEFORE CHANGE IN BEHAVIOR

The delinquent or pre-delinquent boy or girl must feel accepted before there is much possibility of "reaching" him and changing his feelings, views, attitudes, and behavior. Generally, it is unrealistic to ask or expect a mal-adjusted child to correct his behavior in order to gain acceptance. The sequence of events is the other way. The teacher who wishes a disobedient and careless child to learn at school the things that the schools try to teach, must first win over the pupil. Normally the delinquent in the elementary school plays the truant,²⁹ and is especially difficult to interest in "book learning." It may be that his parents actually do not care whether he is truant or not. If they do care, they may punish him for his truancy and this punishment is added to all the other punishments inflicted by truant officers, policemen, principals, and teachers. In this pattern, probably, delinquent behavior will not be undone. The literature is empty of instances where adult hostility has cured either elementary-school truancy (often accompanied with petty thievery) or high school drop-out.

Acceptance by an elementary-school teacher, plus adaptation to the needs of the student with a handicap or a slow learner, is not "coddling." To demonstrate acceptance, it is not necessary that the teacher turn his back on discipline or orderliness. This is no more necessary than that the parent, to be affectionate, need be without limits for what is tolerated at home. Firm, fair, and consistent justice has never meant sternness one moment and over-indulgence (usually caused by feelings of guilt) the next.

Good classroom management is important. It is not adequate discipline which is to be avoided, but obvious cues to some children that they actually are not as "good" or worthy as others. "I'll make a gentleman out of you yet," the teacher threatens. "You'll have to learn how to behave better than others from Putnam Street." This, we believe, is the nub of what Cohen observes when he looks at the part played by the school in dealing with juvenile delinquency.³⁰

The schools obviously encourage the middle-class virtues and values and reward conformity to them. Sometimes, by picking out a lower-class child and grooming him for a middle-class college career, we point out the inferiority of his present situation. We may point out to him the future joys

²⁹ Abraham G. Novick, "Integrating the Delinquent and His Community," *Federal Probation*, June, 1956, p. 40. See also William C. Kvarceus, *The Community and the Delinquent*. New York: The World Book Company, 1954.

³⁰ Albert K. Cohen, *Delinquent Boys*. Glencoe, Illinois: The Free Press, 1955.

- National Congress of Parents and Teachers, *What P.T.A. Members Should Know About Juvenile Delinquency*. Chicago, Illinois: National Congress of Parents and Teachers, 1957.
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- have desirable and/or undesirable consequences? Is there a possibility of a golden-mean in seeking success?
9. How would you try to relate the influence of social class and juvenile delinquency?
 10. In what ways might the home and the school be related in the prevention and control of delinquency?
 11. Can you think of other agencies in your community with which the school might cooperate in the prevention, control, and treatment of juvenile delinquency?

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Children who are permitted to discover and express their individual interests can be more easily encouraged to read further, to use a dictionary, to write letters asking for information. An interest in model airplanes, for instance, may encourage a child to study air currents, to use mathematics.

Traditionally, American schools have been "textbook schools" and the teacher has been expected to supervise the "learning" of the texts by the pupils. There are a number of assumptions implicit in this traditional process of schooling. One of them is that everything that students need to learn can be found in the books assigned. This overlooks what students learn in the way of *attitudes* toward teachers, school, other pupils, books, and reading. Similarly ignored are what students learn about themselves—about their abilities, interests, and social responses. This exclusion of what we might call "incidental learning," or the emotional and feeling accompaniment of the schooling processes, indicates the inadequate conception of learning that formed the basis of the traditional curriculum.

Of course, a person cannot "learn" a book in any meaningful sense. If he memorizes it in a rote sense for factual recitation and examination purposes, little if any valuable learning takes place. Books deal with man's relationship to the physical universe and man's relationship with man and are designed to influence feelings, attitudes, beliefs, understandings, insights, and meanings. They are intended to modify man's behavior, to enable him to have more wholesome purposes, and to achieve these purposes with greater ease and skill. For example, this book you are reading now is designed to impart to students insights, meanings, and understandings about modern man and his social institutions—especially his schools—and his place in the universe, and to give the student some idea of how the individual adapts to and is adapted by his environment. It seeks to give the prospective teacher more insight into his own behavior and the behavior of children. As already indicated, the purpose with which one reads is all-important. One may read to understand, to gain insight, and to see relationships; or one may read to memorize. But rote memorizing inhibits understanding and the ability to relate and apply facts and information.

The student may test this for himself. Read three or four paragraphs of this book with the idea of remembering them verbatim. Then, read three or four paragraphs for the purpose of un-

LEARNING



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similar instruments. Through purposeful use and practice, skills, attitudes, and essential information are mastered.

IMPORTANCE OF THE GOAL IN LEARNING

The goal (purpose) of the learner is the most important single factor in the learning situation. Not only does it determine what is learned, when it is learned, how it is learned, and within the limits of capacity, how well it is learned, but also, to a considerable degree, the permanency of the learning and the emotional (feeling) accompaniment of the learning process.

In the traditional curriculum, school work to the pupil was merely a series of assigned tasks requiring the reading of certain materials, the memorization of certain rules and processes, and the manipulation of symbols according to prescribed procedures. The real purposes of the process were frequently not clear even to the teacher. His function was to follow the course of study or the textbook and to keep pupils busy with the ritual of the schooling process. The pupils were mainly concerned in getting good marks and behaving reasonably well so that their teacher was satisfied and their parents pleased. Arithmetic was the most popular subject with most teachers and pupils because it made sense, one could prove his answers, and it obviously had value outside of school; but even the good student couldn't conceive of a use for diagramming sentences unless perhaps some day he might become a teacher.

The interests, purposes, and goals of the learner grow out of the purposes, activities, and values characteristic of the environment. Interests in reading, in writing, in good English, in the arts, and in science, for example, develop in environments in which these things are esteemed. The school is one of the most important aspects of that environment, and one of its most important functions is the development of wholesome goals and purposes. The necessity and value of teacher-pupil planning in setting meaningful goals has been stressed, as was the importance of the on-going, planned activity that serves as a motivating force for the detailed drill and learning exercises necessary for the attainment of goals; e.g., drill in the mechanics of writing good English takes on meaning if one has a purpose in learning to write well. We are concerned now with showing the influence of pupil goals on the learning process.

DIFFERENTIATION TAKES PLACE IN TERMS OF THE LEARNER'S GOALS

The child differentiates the armholes in his coat when he has trouble finding them in the process of dressing himself; he differentiates the eyelets in his shoes, the shoe strings, and the movements necessary for handling

derstanding them and relating them to past experiences, methods of study, and beliefs about learning. Reading to remember may be temporarily useful insofar as it enables a child to meet the demands of a particular recitation or examination, but devoid of practical applications and meaningful relationships, any information thus obtained is soon forgotten. Reading to understand, however, enhances perspective and insight and may thus influence behavior in a salutary direction.

School books that merely present a series of unrelated facts for the student to swallow and digest wholesale contribute to the development of faulty reading habits and create the wrong impression of what reading is and what constitutes an education. One might as well try to read a dictionary or an encyclopedia in alphabetical sequence. Human organisms are equipped with sensory apparatus enabling them to *appraise* their environment and to direct their own *purposeful* action. The key words in this last sentence are *appraise* and *purposeful*. Mental activities must be aimed at helping a child make successful, efficient adaptations to his environment. Perhaps the term adaptation is not the best to employ in this connection. Adaptation is not a passive process. For one thing, the environment is too changing to make a once-and-for-all-time adaptation. This does not mean, however, that there are not essential skills to develop. However much the environment changes, reading, writing, and arithmetic are truly basic tool skills. But, granting this, the teacher must not lose sight of the fact that students learn most efficiently if they are driven by purpose and insight rather than by fear of failure or ridicule. It is insight that the teacher strives to stimulate.

What do we mean by insight? A student may be said to have insight if he is able to perceive meanings. What are meanings? Meanings are diverse. The meaning of a thing, an act, or an event may be linked to its usage. For example, a table has an "operational" meaning that is spelled in terms of the uses to which tables generally are put. Young children are more in need of operational meanings than of abstract meanings and definitions (such as, a table is an article of furniture consisting of a flat top resting on legs or on a pillar). Youngsters have not *learned* the inter-connections with their environment; e.g., their dependence upon the school helpers (janitor, for example) upon the milkmen, grocers, mailmen, firemen, and policemen. They do not *understand* the function (operation) of their own body or of the simple physical and chemical changes that go on around them all the time. Nor do they recognize their inter-dependence with one another; e.g., the reasons for sharing toys, standing in line, telling the truth (if there is no fear of punishment), hanging up clothing, being honest, and learning to read, to count, to spell, and to write.

Because of their immaturity, young learners might well be treated as explorers who are just finding out the use of maps, compasses, and other

similar instruments. Through purposeful use and practice, skills, attitudes, and essential information are mastered.

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The goal (purpose) of the learner is the most important single factor in the learning situation. Not only does it determine what is learned, when it is learned, how it is learned, and within the limits of capacity, how well it is learned, but also, to a considerable degree, the permanency of the learning and the emotional (feeling) accompaniment of the learning process.

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DIFFERENTIATION TAKES PLACE IN TERMS OF THE LEARNER'S GOALS

The child differentiates the armholes in his coat when he has trouble finding them in the process of dressing himself; he differentiates the eyelets in his shoes, the shoe strings, and the movements necessary for handling

them when he wants to put on his shoes. Or, he differentiates the "boy who has the football" when he wants to play football, and makes a distinction between "stop" and "go" in the process of crossing busy intersections, and between "fl" and "d" when he uses the words *floor* and *door*.

The situations to which we respond are always complex. Until one has learned to attach meanings to certain cues in the complex of details any *situation or experience is meaningless*. Only the gross characteristics are noted. To the child who cannot read, the printed page is merely a mass of unintelligible black marks on white paper. An American adult trying to comprehend a page of Chinese writing can sense the feelings of the child and realize with some accuracy the problems the child faces in learning to read. Learning to read will require that a child direct his attention to certain details in the mass of symbols, and that he will associate meanings with these details. *The clues (symbols) will be differentiated in terms of the youngster's purposes*. Even before he can spell or recite the alphabet, a child can distinguish words that have come to be important to him, much in the same manner as one differentiates the face of a friend, by its general configuration. In the modern school, the child reads for meaning (a functional goal) from the moment he begins to read. He may at first recognize short sentences or even paragraphs from their general outline or their location on a page *after he knows what they say*. He then differentiates words that are repeated in different sentences. He learns to read fluently for meaning with a "sight" vocabulary of from 100 to 150 well-chosen words before he runs into difficulty with different words that look much alike. It is then that a distinction in terms of letters and spelling is made. The sounds of letters and combinations of letters are then distinguished in terms of the "sight" words he already knows. Differentiation has taken place *from the beginning in terms of the child's goals—the acquisition of meaning from the printed page*. In the old-fashioned approach, the child's attention was focused from the beginning on the letters of the alphabet, the sounds of these letters, and articulation and voice inflection. This greatly impeded the reading process, made it unnecessarily complex and stilted, and led to the development of faulty reading habits. The good reader reads by glimpsing rapidly the general configuration of words, and fixes his attention on the flow of meaning. When the symbols are differentiated in terms of acquiring meaning from the printed page, meaning is always associated directly with the symbols, and learning is promoted. For those who are learning to read, a page that contains more than two or three words that *require analysis may prove too difficult for developing good reading habits*.

When teaching children to write and when stressing such things as exact form of the letters, uniform spacing, correct position to take when writing, and other formal requirements, situations should be created so that it is

obvious to the child that mastery of these elements is necessary if he is to communicate his ideas to others rapidly, accurately, and concisely. In other words, the child should have a purpose for writing and communicating ideas. Learning to write involves giving the learner a clear conception of what good writing is and how to go about learning it. The beginner then makes a series of approximations to his goal, sensing cues (differentiating elements) that lead to it or having them pointed out by the teacher. There is greater retention and greater economy of effort in learning to write or in any other learning when it is undertaken with purpose in a meaningful situation.

INTEGRATION TAKES PLACE IN TERMS OF THE GOALS OF THE LEARNER

Learning involves not only the process of differentiating meaningful elements and cues from a total situation, but also the act of combining elements that have been differentiated in previous learning into new combinations to achieve new goals. For example, a student may wish to write the script for the dramatization of an historical event. What he already knows (has differentiated) about the historical period—contemporary characters, important events, political issues, social problems, manner of dress, popular and classical music, tools and weapons in use, and the furnishing of houses—will all be integrated in terms of his new purpose, as will his knowledge of sources of information—the use of the library card files, the ability to use an index, to skim for information, to organize materials, to sense dramatic situations, to characterize, to write dialogue, and to punctuate. The situation calls for the integration and reorganization of what is known, the use of communication skills, and it also gives purpose to the differentiation and learning of many other things that are not known.

Problem situations such as this require the integration of previous learnings in the achievement of new purposes. They are the most effective educational experiences, being creative in character, involving the operation of the higher mental processes, giving a feeling of mastery and accomplishment to the learner, and endowing the development of all the fundamental intellectual skills with purpose.

Retention and elimination of trial responses in the process of learning takes place in terms of the goals of the learner. Most learning involves a period of trial and error. Some psychologists prefer to say trials are made and success occurs, or to call it simply a period of provisional trials. In any activity, many mistakes are made by the learner. The responses that he makes in the beginning are awkward and incorrect; he cannot make his fingers, his body, or his feet behave as smoothly as does the skilled performer. In learning to write, the beginner's whole body seems to be in-

volved and some time may elapse before he is able to coordinate it properly. When beginning to read, if meanings are not clear, he makes a guess according to the cues he perceives from the context. Or, if this does not make sense, he makes another guess based upon additional cues until he perceives the correct meaning. In solving an arithmetic problem, many attempts and different approaches often are required because the quantitative relationships are so complex that it is difficult to integrate all the relationships and still be certain that they are correct. Learning involves practice, which is essentially a series of provisional trials.

The teacher's aim is to reduce as much as possible this period of provisional trials by helping the learner associate his beginning activity with the ultimate goal. In dancing or writing, the teacher does it by showing the movements slowly and explaining the correct form; in reading, by giving the correct meaning or cues to the correct meaning; and in arithmetic, by demonstrating with concrete objects the relationships involved.

Among the provisional trials that the learner makes, some are better than others, are almost correct, and from these the beginner gets the feeling of partial success. If his goal is clearly perceived, the responses that are all but accurate tend to be retained and repeated; incorrect responses are not. This indicates the importance of clearly understood goals. Responses are retained and learned or are rejected and not learned in terms of the learner's goals.

THE LEARNER MUST BELIEVE HE CAN ACHIEVE HIS GOALS

The learner must be constantly encouraged and led to believe that improvement is possible, that the goals may be achieved. This is especially true in the elementary school. Numerous experiments have shown that praise and encouragement are more effective than criticism in securing improvement. However, being ignored is probably even less effective than being criticized. The learner should feel that others are interested in his accomplishments. Children in elementary school who try to learn and who fail, frequently have had few outstanding learning successes in the past that they can rely upon for comfort. These children need sympathetic encouragement. On the other hand, individuals who find learning easy and are quite confident of themselves, may be stimulated by failure. The coach of a college football team may find it necessary to be severe and sarcastic in criticizing mistakes made by players who consider themselves stars. Likewise, a professor can establish high standards and expect them to be met if the members of his class are highly intelligent. This is possible only because of the self-confidence of the students. In the elementary school,

pupils frequently lack the confidence necessary to profit from criticism. The teacher must do everything possible to build self-assurance and the feeling that progress is possible and is being made.

ADEQUATE GOALS INCLUDE INTENTION TO LEARN

Learning is a complex process and although application of the principles of learning enables one to learn with greater efficiency, it still requires effort and determination. There is no easy road to learning. Practice without clearly perceived goals and the intent to learn will not result in progress. Many an individual's penmanship has been poor for years simply because he has not made a conscious effort to improve it. He has not become sufficiently annoyed with his scribbling. For the same reasons, people can speak, walk, dance, play bridge, and typewrite for years without improving their techniques and abilities. Practice alone does not bring improvement. It is necessary also to understand one's mistakes, know what type of behavior will insure progress, and have a definite desire to improve.

THE MODERN SCHOOL EMPHASIZES INSTRUMENTAL LEARNING

When something is learned in order that the knowledge obtained may function to some purpose, and when the learning takes place at a time when the purpose is of importance to the learner, the learning may be called *instrumental learning*. Such learning must not be considered haphazard or accidental. It is often called incidental learning, but it must be kept in mind that it is incidental learning *with a purpose*. Most people cannot tell you whose likeness appears on one, five, and ten dollar bills, although they have handled them many times, nor can they tell you the nature of the numerals on their watches in spite of the fact that they look at them many times each day. This is because such information is not useful to them. Instrumental learning is emphasized because it enables the learner to see the purpose of the learning and to set goals that are relativistic in terms of the uses to which the learning is put. The indispensable tools of writing, spelling, punctuation, capitalization, proper word usage, and sentence structure cannot be left to chance. Proper goals, acceptable usage, good form, and good models must be kept before the beginner and presented in their proper functional settings. When the learner is doing much writing—letters to friends, relatives, absent schoolmates, and “pen-pals,” or articles for the school paper—these mechanical aspects of composition take on new meaning and purpose and drill in them becomes effective. A basketball player may shoot baskets effectively in a game but that does not

mean his skill was acquired entirely in the game. He probably has drilled for hours shooting baskets from various positions on the floor. The game and the drill are both necessary; either one without the other is inadequate.

Achievement in arithmetic involves the development of a hierarchy of interrelated skills and understandings involving comprehension of an internally related and consistent system of quantitative logic. It cannot be learned adequately if it is used only in a functional way in connection with unit activities. Attention must be devoted to it daily and systematically. The daily functional use of arithmetic does give more clear-cut and purposeful goals for the work of the arithmetic period, but drill in problem-solving and an understanding of the system are essential also.

In a modern school, approximately one-half the time may be devoted to a functional, purposeful use of the skills, abilities, and understandings that are being and have been developed. The other half of the day may be devoted to the improvement of the specific skills required in developing the learning units. The two halves are closely related and both are essential. They insure that attention is being given to subject matter and to the intellectual skills through which subject matter is made significant (meaningful).

MOST LEARNING RESULTS FROM GOAL-DIRECTED ACTIVITY

The teacher's purpose is to give the learning child a clear and detailed conception of the goal toward which he is striving and convince the youngster that it is possible of attainment. If the child is not convinced that eventually he can succeed, he will remain confused and frustrated. During the provisional trials, the learner should be praised for his progress and made aware of his successes. The sooner he recognizes that a response was successful, the better. Also the reasons for his failures, *if he does not know them*, should be pointed out in detail in order that he may avoid them in the future or profit from them. However, the teacher should not call attention to more errors than can be corrected at once; the number will vary with the maturity of the child. It is also helpful to the beginner's morale if he realizes that others are experiencing the same difficulties. The slow pupil will grow more and more discouraged if he is placed in company with children whose rate of progress is much more rapid than his own. Often pupils may be arranged or scated in such a way that common difficulties characterize the group. As provisional trials are made, with some success occurring and errors being pointed out in a sympathetic way, the child gains a clearer and clearer conception of the goal, a development necessary if further learning is to take place. Success in attaining goals strengthens the desire to learn.

EMOTIONAL LEARNING MAY NOT BE GOAL-DIRECTED

Many school children come to dislike reading, arithmetic, music, art, poetry, and other subjects because of the frustrations, disappointments, and embarrassments associated with the teachers and the study of these subjects. The teachers certainly did not intend that the students learn these negative attitudes, but many times the methods used could not have achieved the result more directly if this intent had been present. Requiring an individual to read orally day after day in the face of failure, criticism, and embarrassing remarks is too much for even an adult to tolerate. If a child is asked to solve meaningless (to him) problems in arithmetic, he will soon develop a strong aversion to the subject. The required reading of literature that is beyond the student's comprehension defeats the first purpose of literature—to bring enjoyment to the reader.

The learning of ideals, values, and attitudes is largely incidental to the purposes of the learner. Seldom does a learner say to himself, "I want to develop a new attitude, ideal, or value . . . along this or that line." They can be developed, but to do so the total situation should be such that the learnings are incidental even though the arrangement is purposive. For example, the church uses prestige, architecture, music, literature, liturgy, color, lights, vestments, processions, symbols, and cadences to instill a sense of reverence. Similarly, the army uses music, uniforms, decorations, parades, formations, literature, flags, symbols, and cadences, to foster discipline. A home, a business office, a school room creates an emotional effect. Environments create democratic and autocratic attitudes. The social atmosphere of the classroom determines emotional learnings. Emotional learning takes place as a result of the emotional responses to the total situation.

ORGANIZATION IS ESSENTIAL FOR EFFECTIVE LEARNING

Organization is a central concept in learning; it is an essential of the learning process. The student may test this statement for himself by writing a list of ten nonsense syllables and trying to memorize them. Although it is known that the syllables are unorganized and devoid of meaning, the first step in memorizing them, in fact almost the whole process, consists in trying to *organize them*, to find some meanings or relationships that will enable them to be remembered. Some syllables may rhyme, some may sound like parts of words that are related in some way, or some may sound like the nicknames of friends. The syllables are learned largely as a result of attempts to find relationships and order. In remembering the number

of days in the various months of the year, perhaps everyone relies on the rhyme, "Thirty days hath September, April, June and November . . ." Poetry that has a distinct meter and rhyme (one form of organization) is easier to memorize than prose because the meter and rhyme offer cues for remembering the specific words. A sequence of related ideas is also involved—this affords other cues. Poetry properly read and understood can be memorized almost without effort.

This emphasis on nonsense material and rote memory is not intended to emphasize the importance of such learning in the school, but merely to show that *even with* such materials, organization and meaning are at the heart of the learning process.

Importance of sequence. Since the school curriculum for a specific child may be defined as all the experiences that the child has while in school, it is very important to know *how* these experiences should be organized. What principles for organizing experiences will facilitate learning?

(1) All learning is dependent upon previous learning and serves as a basis for future learning. This generalization may be stated in many ways and all of them, perhaps, add something to its meaning. *All learning is a reorganization of previous learnings.* A word is defined in terms of other words. If the meanings of these other words are not known, the definition does not help in understanding the new word. Professor Thorndike used this principle in organizing his dictionaries. Each word was defined in terms of words that had a higher frequency; i.e., were used more often and hence were more likely to be known than the word being defined.

(2) A new experience is always interpreted in terms of previous experience. A child whose only experience with the word "poker" has been in connection with a stove poker is likely to assume when he first hears of a game called "poker" that it is played with stove poker. If it is referred to as a game that is played in secret by people of questionable reputations, his suspicion that it is played with stove poker is confirmed. If a child knows the word *crane* only as it refers to a kind of bird, and he reads about a crane that was a feature of colonial fireplaces, he interprets it to mean that a bird was in some way connected with the fireplace. Or, when the only ministers the child has ever heard about are local clergymen, it is no wonder that he thinks Benjamin Franklin was a French clergyman when the child's history books refer to Franklin as the "minister to France."

(3) An educational experience is one that stimulates, enriches, and makes future experiences possible, fruitful, and meaningful. Here the emphasis is on the value of the experience. Learning to read, for example, makes possible the constant enrichment and broadening of experience, with the ultimate possibility of communicating with the great minds of the

past and present. A person's reading is always interpreted in terms of his own past experiences, either real or vicarious. *A non-educational experience is one that limits or inhibits future experiences.* Again the emphasis is on the value of the experience. A child in learning to read may be hurried through books that are too difficult for him. As a result, he fails to get meaning from his reading, is embarrassed frequently in class by mistakes, is told by his teachers that he never will learn to read, becomes convinced that he will not, and learns to dislike reading to the extent that all through life he avoids picking up a book. The future experiences of this child are limited and inhibited by this non-educational experience. Children who lack resourcefulness, independence, and a zest for new experiences have experienced a host of similar non-educational experiences. The so-called "spoiled child" has learned his behavior and it prevents and limits his future experiences.

(4) One sees in a situation only what one knows. Students in teacher-education courses frequently observe superior teachers teach. It looks simple, easy, and natural. Anyone would do it that way. The better the teaching, the easier it looks. The students recognize only those features in the performance that they know something about. Most of the artistry of the teachers is missed completely. The same is true in watching a dramatic artist on the stage. Again it is easy, simple, natural. Anyone would do it that way. One sees only the dramatic techniques and skills that one knows something about. In the elementary schools, a thing can have meaning only in terms of what the child already understands. For example, if a very young child has grown familiar with the name of a certain car or truck, he is apt to use this name in referring to all cars and trucks. Likewise, *what one gains from the reading of a selection depends entirely upon what one brings to the reading in the nature of past experiences.* Readiness to learn is an important consideration in all learning at all levels. Much attention and research have been devoted to the problem of when to begin reading. Reading readiness tests and preparedness programs are used in the primary grades of most modern schools. There is no magic in these materials; readiness is not really indicated by a test score. Unless the teacher understands the ideas back of a reading readiness program, it can be misused and become formal, stilted, and meaningless. The child can only learn to read in terms of previous learnings. He must have a speaking and "understanding" vocabulary that will enable him to comprehend what he reads, and he must be able to speak in "thought-units" and to express ideas. Also he must be able to recognize words as such; i.e., in a sentence that he speaks, he should know that it is made up of words. This is called *auditory discrimination* of words. As this ability is developed, the child can recognize such words as his name, *stop*, *go*, and perhaps the labels

that have been placed on articles in the classroom, such as *desk, chair, table, wall, ceiling, window, door, closet, blackboard, and bulletin board*. He has learned that words differ from one another in appearance and he has learned to make visual discrimination between words and letters. The ideas and words that appear in the reading matter must be discussed or experienced until they are meaningful for the child. He must, of course, be able to listen with understanding, and be able to follow simple directions. Finally, he must have heard stories told and read to him, and have learned to follow the sequence of events and be able to tell about something he has experienced.

Readiness to read is developed through experience. One never waits for readiness to occur but seeks to provide for children the experiences that develop readiness. In a sense, readiness to read is a consideration through all education and life. There are articles in mathematical journals that the professor of mathematics is not prepared to read; i.e., his previous experiences in mathematics have not fitted him to read a certain technical article with understanding. This is true in every field at the most advanced levels. Developing readiness to read and the ability to solve problems, to understand, and to perform, is what education is all about.

Importance of individual differences in learning capacity. The pacing of the learning sequence for an individual should depend upon his learning capacity. Some children after reading two or three pre-primers are ready to read primers, whereas others will have to read five or six or perhaps more pre-primers before they can move comfortably to the next level of reading difficulty. Slow learners require more experiences at each level of a learning sequence. In the traditional school, a prescribed number of books were to be read by each child. As a result, the fast learners were kept at each stage of a learning sequence longer than necessary, and the slow learners were not provided with enough experience at each level. The teacher frequently "pulled" the slow learners through materials too difficult for them, leaving them confused and uncertain of their abilities. When a young child is required to read a page containing more than two or three unfamiliar words, the material very probably is too difficult for him. Reading skills grow more rapidly if one reads material that he can comprehend easily and pleasurable. What has been said about the development sequence in reading applies equally to arithmetic, writing, and all other complicated skill areas. Each step must be based on previous steps and the steps for each child must be taken slowly enough so that he moves from one to the next with confidence. They are not really steps at all, but rather *represent gradual adaptations to new concepts*. Only the teacher can judge the stage of a child's development and adjust the materials comfortably to the child's learning ability. The curriculum must be sufficiently flexible to

enable the teacher to provide the experiences that the child needs rather than force him through misadapted materials.

Organization is essential to meaning. By placing specific items in a broad pattern of relationships they are invested with meaning. Education consists in learning *the meaning and doing of things*. This requires that learning experiences be properly organized and that relatedness, generalization, and understanding be emphasized rather than itemization, specificity, and verbalization.

Experiences and learning may be organized in any number of ways. There are as many forms of organization as there are types of relationships. The question is, what organization produces the most valuable learning? Let us consider first a rather poor or academic type of organization from the standpoint of learning, yet one that is frequently used in school. The student may recognize that some of his courses have been organized in this way.

Suppose we are organizing a course in "golf" at the high-school level in a typically academic fashion. It might look something like this:

- I. The Derivation of the Word *Golf*
 1. The order of forms.
 2. Various theories regarding its derivation.
- II. The History of Golf
 1. Golf in the Middle Ages.
 2. Development of the game in Holland.
 3. Development of the game in Scotland.
 4. Golf in England.
 5. Golf in France.
 6. Golf in the United States.
 7. Golf in the Modern World.
- III. The Game of Golf
 1. The nature of the game before 1700.
 2. The nature of the game in the eighteenth century.
 3. The nature of the game in the nineteenth century.
 4. Twentieth-century golf.
 5. Factors influencing changes in the game of golf.
- IV. The Language and Technical Terms of Golf
 1. The 150 most commonly used terms in golf and their meaning.
 2. Names of various golf grips.
 3. Names of various golf strokes.
 4. Names of various golf stances.
 5. Names of various golf clubs.
- V. Practice on the Fundamentals of Golf
 1. The grip, (2) the stance, (3) medium pitch, (4) full pitch, (5) the chip shot.
 2. Fundamental positions for use of the (1) brassie, (2) driver, (3) driving iron, (4) mashie, (5) mashie iron, (6) mashie-niblick, (7) mid-iron, (8) mid-mashie, (9) niblick, (10) putter.

After a semester of studying about golf and another of formal drill in the gymnasium on the fundamental grips, stances, drives, approaches, and putts the student could probably play the game of golf with the same confidence that he speaks or reads French after a typical two-year, high-school course in the subject. Such an organization might be satisfactory for an article on golf in the encyclopedia but it is not for teaching because the goals are wrong. Such a procedure demands the memorizing of a great deal of material in a one-two-three fashion, out of its functional (operational or instrumental) setting. The emphasis is on teaching rather than learning, and the skills are not practiced in relationship to the game. Learning to play golf by this method would be a boring process to all but the academically minded, those who have good memories or who may be satisfied with "a mere bookish sufficiency."

A second unsatisfactory way to teach golf might be called the "ultra-progressive method." Here the teacher misapplies some *not-too-well-understood* principles of personality development and learning. "Understanding" the necessity of learning ideas and skills in their instrumental relationship to the goal, the students are required to play the game of golf from the beginning. Everything must be learned in the game, any special and concentrated drill on driving or putting, regardless of the obvious need for it, is considered a violation of the principle. Isolated drill is considered always formal, meaningless, and a waste of time. Believing that the school should avoid teaching competitive behavior, the teacher dispenses with keeping score. Keeping score leads to competition. It also leads to disappointment, frustration, aggression, cheating, and other personality aberrations. After all, it is the social nature of the game that is important. Why clutter it up with competition and frustrating experiences? Not having a good understanding of what is meant by freedom and a permissive atmosphere, the teacher and the pupils are not bound by the order in which the holes are meant to be played. Each pupil feels free to drive through the next four-some if they are too slow. The social learnings of the whole child in the total situation are of utmost importance, and the child must be allowed to structure the game for himself!

One would be surprised if anyone learned to play golf at all under this form of organization. Certainly no one would learn to play well. Perhaps this description is overdrawn, but there are those who recommend that *all* learning *must* be in connection with the unit activities, that examinations (and other means of keeping score) should be abolished, and that children should not be frustrated or placed in situations where anxiety exists because of fear of failure. (There are at least three types of fear and anxiety: (1) irrational fears or phobias, (2) fear of failure when the level of expectation is beyond the capacity of the individual, and (3) fear of failure when the

level of expectation is within the capacity of the individual. The first two should be avoided but the last type is essential to effort, achievement, and development.)

The teaching of golf, like all other teaching, should be organized to avoid the errors in both of these extreme illustrations. It should be organized in terms of the goal of the game; i.e., keeping the number of strokes at a minimum. The novice should play the game with an expert (the teacher) who takes him over the whole course, pointing out the nature of the game, the proper stances, the proper clubs for each shot, giving reasons and explanations, pointing out the reasons for poor shots and explaining the proper cues for the good shots, using the technical vocabulary of the game in the process of playing it, discussing the reasons for and the goals of special drill in driving, putting, and various types of approach shots. The learner should keep a careful record of his scores to measure progress. Competition with self and others adds zest to the game. Awareness of correct form and incorrect form should come as soon after the performance as possible. Perhaps in the beginning, one-half of the time should be devoted to playing the game and the other half to special drill in developing form and eliminating the most glaring errors. This insures that all the practice is related operationally to the over-all goal of the game; i.e., keeping the score down. Learning about the history and development of the game should be postponed until a person has become competent at the game and such facts are interesting to him.

Organizing instruction in the elementary school. In the elementary school, the experiences of the child with reference to generalization, details, time, space, and so forth, are very limited. Consequently, his attention span is short—he knows and sees little in any situation and moves quickly to the next interest. He wants to handle things, to try them out, to explore, and to play with them in make-believe fashion up to his limit of understanding. As he grows and develops, his ability to generalize, to think abstractly, and to be concerned with details and relationships increases. Buswell¹ has described this maturing of interest and activities as follows:

Any person can identify this developing process in any interest which has developed to a mature stage. Any boy's interest in model airplanes illustrates it equally well. At first he simply wants a plane that will fly. Then he wants it to fly faster and longer. Then, through comparing (relating) the flight of his plane to that of those of his friends, he wants to know how to improve the flight of his own. His interest now veers to the scientific; he wants some general knowledge, some principles that will

¹ A. L. Buswell, "Curriculum Organization and Sequence," *Psychology of Learning*, Chapter XIII, Forty-first Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 1942, p. 455.

direct him. Gradually, he comes to be interested in technical aspects of aerodynamics and spends hours in reading "abstract" material that provides a systematic and organized framework for his problem. His interest now is habitual and the time he devotes to "concrete" flying of a plane is far less than the time he willingly gives to furthering his abstract understanding of aviation.

One of the important advantages of teacher-pupil planning is that the maturity of pupils' interests is reflected in their analysis and organization of topics. They tend to set goals and suggest activities that are appropriate for their level of development.

Many of the interests and learning activities of pupils in the elementary school involve an investigation of the workings of such establishments as a bakery, dairy, fire department, police department, grocery, airport, oil station, or shoe repair shop. In such units of work the nature of the service or business itself gives the clue as to how the study should be organized and conducted. If, for example, the unit involves the study of baking processes and a trip to the bakery is planned, the procedure should involve the following steps: The children should first have an opportunity to tell and discuss all they know about bakeries. Here is the "known" out of which the "unknown" will develop. The process of learning will involve a reorganization of these past experiences in a constantly expanding and developing body of knowledge, meanings, and understandings. The new experiences must make sense; they must be organized in relationship to what is known and what is not known. After telling what they know and raising questions and expressing a need for more information, these questions are organized in terms of the baking process. The children understand this and will come out with something like this: (1) What kind of bakery goods do people buy? (2) What are the things necessary to make bread, pies, rolls, buns, and cookies? (3) Where does the bakery get these things? (4) How does the baker know what things to put in bread, in pie, and so forth? (5) How are they mixed? (6) How does he make all the loaves uniform in size? (7) Does the baker do anything else with the mixture before it is baked? (8) How does the baker keep the oven hot? (9) How long does it take to bake bread? (10) What happens after the bread comes out of the oven? (11) How is it wrapped? (12) How does the baker know what to charge for a loaf of bread? (13) How does the baker know how much to bake? (14) What happens if the baker bakes too much? It can be seen that the questions can be organized roughly in terms of the sequence of events in the process of baking bread or other products. When the children visit the bakery, they have definite things to look for and definite questions to ask the baker. The observations should start at the beginning, the bringing of the ingredients into the bakery, and end with the finished

product leaving the bakery. The experiences are organized in terms of the processes of the bakery. If an unorganized discussion of baking takes place and is followed by an unorganized sequence of observations, much of what is said and observed fails to take on meaning because the relationships that would have given them meaning are absent. The bright child will strive to give his experiences meaning by reorganizing them in terms of the baking process, but for most children this is leaving too much to chance.

Learning is a creative process. Meaningful, functional learning is a creative process because it involves discovery, insight, and problem solving. Of course, rote memorization is not creative except in the discovery of relationships that enable the memorized material to be remembered; but such learning is only temporary and of limited usefulness. Learning in the modern school is concerned with the techniques of investigation and the search for relationships and meanings. Children are taught how to carry on a personal or business correspondence and to compose original plays, poems, and dramas. Reading is consciously directed toward certain definite objectives designed to enable a student to follow directions, increase his ability to interpret and summarize information, aid him in locating references bearing on particular problems, and generally to broaden his interests. Other activities accented are field trips, experiments into the nature and structure of working objects, preparing indexes, and preparing issues of the school newspaper. This is the type of learning that is creative, self-stimulating, and easily adjusted to the maturity level of the child.

Learning is a developmental process. If we were to ask the median pupil of each grade from the first through the nineteenth to state what the words, *justice, democracy, duty, water, and river* mean to him, we would get a series of statements showing a constant development of the meaning of these concepts through the various educational levels. However, the fact that primary children might be asked or required to memorize the most advanced and adequate definitions would not indicate necessarily that the children understood them. Education cannot be short-circuited in this manner. Verbalization is *not* education. It is perhaps one of the greatest enemies of true education because it gives an impression of great learning where little exists. Traditional education with its emphasis on reading and reciting consisted largely of this kind of verbalization.

A word means something a little different in every new context in which it is used. Some words have a surprisingly large number of connotations; *The American College Dictionary*, for example, gives 104 meanings for the word "run." The hundreds of relationships in arithmetic take on additional meaning in every new situation in which they are encountered, and each generalization in the natural and social sciences takes on added

significance in every situation to which it gives meaning and understanding. Since learning is always a reorganization of previous learning and must serve as the basic material for new learning, it is *essentially developmental* in character. There is no short cut to each new degree of learning; each step must be taken in the order in which it has purpose and meaning. Improvement in a skill or an increase in understanding must come through attention to new details, new clues, new insights, and a new organization of behavior. Progress requires effort and the intent to improve.

• Discussion Questions

1. Make a list of the intellectual skills that you practice when you study. What are some of the important intellectual skills you neglect? Why do you neglect them?
2. Defend or attack the statement, "One learns from a book only those things that result in some change in behavior" (using behavior in a broad way).
3. Find out what proportion of your class has developed the habit of reading textbooks merely to remember rather than to understand.
4. Examine textbooks in history and geography from the standpoint of the degree to which they can be read to understand relationships and gain insights. To what extent do they give factual material that can only be memorized?
5. Why are "operational" meanings more important than abstract meanings in the elementary schools? Give examples of operational and abstract definitions for several things of interest to children in the elementary schools.
6. Give examples of long-range and short-range learning goals characteristic of children in the elementary school. What are the important factors in setting goals? (See Chapter 3.) Why are goals important in learning?
7. What are the difficulties and problems involved in teacher-pupil planning?
8. Assume that, in order to find out more about your students, you assign them the task of writing autobiographies. Set up for the class a sequence of experiences leading to this goal. Defend your approach from the standpoint of learning.
9. List a few of the most effective learning experiences you have had. Give the reasons why they were effective.
10. Show how the goals of the learner change in the process of learning to dance, skate, or play a musical instrument.

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9. List a few of the most effective learning experiences you have had. Give the reasons why they were effective.
10. Show how the goals of the learner change in the process of learning to dance, skate, or play a musical instrument.
11. Give examples of school experiences that had no purpose or meaning for you.
12. Explain the reasons for your negative attitude toward certain school subjects.
13. Point out the relationships between the processes of differentiation, synthesis, and organization.
14. What do you consider to be the most important principles for guiding the organization of learning experiences in the elementary school?

The learner's own evaluation of his strengths and weaknesses and of his progress in overcoming his difficulties is of primary importance in helping him to direct his efforts and encouraging him to put forth further effort. The teacher can assist the pupil in guiding, enlightening, and confirming his self-evaluation.

Evaluation is inherent in the learning process. The learner seeks through practice and provisional trials to improve his behavior in solving problems, in writing, in swimming, in reading, in spelling, in composing letters, in organizing a report, and in explaining to himself the relationships involved in a situation. During and after each provisional trial, the learner evaluates it. Certain aspects of the trial behavior are judged correct and these are retained; others are determined to be undesirable and the learner attempts to avoid them in the future.

Evaluation also is essential to improvement. The beginner must have a clear conception of his goal, because it is in terms of this goal that he constantly *evaluates* responses. The superior teacher seeks through every means possible to give the learner a clear conception of the goal. This is done by showing and explaining the desirable features of behavior. In motor behavior such as handwriting, the teacher helps the learner set his goals by showing him good specimens of handwriting, by going through the process and demonstrating it slowly, and by pointing out the features of good penmanship. Of course, all the characteristics of good writing are not presented to the pupil at one time. They are described to the child as he shows a need for them in the process of evaluating his writing. By descriptions, demonstrations, pictures, models, and teacher-pupil discussions, the goals of learning grow in meaning and become the basis for the learner's constant evaluation of his behavior.

It is important for the teacher to realize that in all this learning it is essential that the child know in detail what is right in his behavior and what is wrong, why a detail is right and why a detail is wrong. The teacher must observe carefully the pupil's performance in order to help the pupil evaluate it. Unless the child understands the goals toward which he is aiming and strives to reach them by constant evaluation of his progress,

improvement cannot take place. In school, children frequently try to solve a problem without knowing what the problem is; they

MEASUREMENT



TESTING AND

try to organize and outline materials without knowing what the essential relationships are. In arithmetic, for example, children are too often taught to follow routine procedures in solving problems without understanding the relation between each step of the process and the goal. The process rather than the solution of the problem becomes the goal. When this is true, the pupil is unable to evaluate his work effectively.

Effective preparation for teaching involves learning to observe children at work and play and knowing the significance of what is observed for the planning and organization of future experiences for the children. It is only through observing the behavior of a child that the teacher knows the extent of the youngster's readiness for various educational experiences; e.g., his readiness for the various stages of learning to read. In determining a child's position in the sequence of learnings necessary for reading, the teacher observes the extent of the child's vocabulary, his ability to speak in complete sentences, his ability to follow verbal directions, his ability to listen, his ability to relate an experience in sequence, his ability to distinguish between sounds that he hears and symbols that he sees, and his ability to work cooperatively with other children.

In learning to observe children, knowing *what* to observe is of primary importance, although perhaps in the past more attention has been given to the technique of *how* to observe. During and after observing, the teacher evaluates; i.e., makes judgments concerning what the future educational experiences of the child should be or what was the value of past experiences. It is important for the teacher to understand that tests and measurements are simply more exact methods of observing behavior and that evaluation is the process of making value judgments on the basis of what is observed. A person may *evaluate* a curriculum; i.e., judge the value of the educational experiences to the children; but a person *measures* the growth in reading comprehension or in reasoning ability in arithmetic upon which the judgments are based. Measurement does not involve a value judgment. It is simply a process of determining the amount or the relative amount of something.

LEVELS OF EVALUATION

There are several levels at which the educational process involves evaluation: (1) the learner's level, (2) the teacher's level, (3) the school officials' level, (4) the parents' level, and (5) the community level. The nature of evaluation at these five levels should receive attention, though it is difficult to discuss evaluation at one level without discussing other levels at the same time.

The primary importance of the learner's evaluation of his own behavior. The beginner must understand clearly what his goals are, must evaluate

USING DIAGNOSTIC TESTS

Diagnostic tests should be studied in the same way. Good diagnostic tests are based on research designed to reveal the specific difficulties that children experience in learning. By studying the tests, the teacher becomes aware of these difficulties and is prepared to observe and avoid them in the daily work with the class.

Measurement has an important function in the diagnosis and treatment of learning difficulties. Learned behavior, however, is infinitely complex with the habits, skills, understandings, feelings, and desires all interrelated in a more or less smoothly flowing behavior pattern. Oral reading is a good example of what we mean here. It involves the rapid recognition of verbal symbols, the reorganization of past experiences with these symbols into a consistently flowing sequence of meanings, the conversion of the written symbols into spoken symbols, the manipulation of the complex speech mechanism, the expression of the emotional content in the inflection of the voice, and an over-all emotional reaction toward the whole process. The process of learning appears to be to some extent linear and to a high degree sequential.

The role of the school is to determine, within the limits of the pupil's capacity and achievement, the level of educated behavior to be achieved and then to determine the most effective sequence of experiences to bring it about. Sequence and the various criteria for determining it are important points in educational thinking today.

DETERMINING OPTIMUM SEQUENCE OF EXPERIENCES

In general, the criteria for determining optimum sequence of experiences are of two kinds: (1) those related to the physical, intellectual, social, and emotional maturity of the child, and (2) those related to the nature and complexity of the behavior to be learned. These are really different aspects of the same developmental process. Properly conceived, they both result in sequences that are challenging, purposeful, and meaningful to the learner. The "child development" approach emphasizes the maturation process and tends to ignore definite goals, while the "culture centered" approach emphasizes the selecting, refining, and grading of experiences in the direction of definite behavioral goals.

That the development of motor, social, and intellectual abilities is sequential in nature is attested by the highly reliable age scales that have been constructed. The facts presented in Chapter 2 dealing with the nature and extent of individual and trait differences are based on the application

experiences. The readiness purpose is concerned with observing and evaluating those aspects of pupil behavior that reveal what the child is ready to learn and what experiences will have educational value to him. This may involve intelligence testing, readiness testing, diagnostic testing, and aptitude testing. The evaluation of achievement involves a judgment about whether the educational experiences of the child have been valuable in attaining educational goals.

USING READINESS TESTS

In evaluating a child's behavior from the standpoint of determining his readiness for certain educational experiences, the teacher's point of view is extremely important. When readiness, diagnostic, and aptitude tests are used, the teacher may think that the scores on these tests are important. This is true only in a limited sense. One must know a great deal more about a pupil than his test score if educational experiences are to be planned intelligently. One cannot convert a test score into planned educational experiences. Essential in the planning of learning experiences is specific information about the child's vocabulary, ability to express himself, interests, ability to think quantitatively, physical development, motor skills, social skills, emotional peculiarities, and many other characteristics.

For example, when reading readiness tests are used, the teacher should study the tests to determine what aspects of child development are essential in learning to read. The better reading readiness tests are based on extensive research designed to determine what aspects of child development are most closely related to reading achievement in the primary grades. Such tests measure the extent of the child's speaking vocabulary and his ability to follow directions, to distinguish between printed words, to distinguish between sounds of words, to identify numbers and letters by name, to speak in complete sentences, to remember a story, and to see certain types of relationships. The readiness test reveals to the teacher certain aspects of child behavior that are important and that should be observed in the daily class work. The idea that tests must be used to observe these factors is unfortunate. The tests afford an over-all checkup and save the teacher much time, but the teacher should be constantly on the alert in observing these aforementioned factors. The use of the test should develop the teacher's powers of observation in that they direct attention to important aspects of behavior, suggest situations in which the various aspects of behavior can be observed, and point out the importance of that behavior in planning educational experiences for the children. As far as the scores of the pupils are concerned, two pupils making exactly the same total score may need different experiences in order to further their reading development.

colon, semicolon, and so forth, is of value largely in indicating whether or not it is desirable to test further on all the situations in which the comma, for example, may be used.

The teacher should be warned that often when diagnostic testing is first instituted, a discouraging situation is revealed. It seems that most children need some special attention on all aspects of the learning that is tested. However, confidence in the correctness of the approach and persistence in applying it over a period of time will reveal its effectiveness. Desire to improve and knowledge of how to improve in any area of learning result in optimum achievement.

The considerable amount of time devoted to this type of diagnostic testing and remedial teaching in the modern elementary school is not generally recognized in books and journals dealing with educational topics. The fact is that almost all the time devoted directly to the teaching of spelling and handwriting is consumed in the search for, and the correction of, specific errors of specific children. In arithmetic, reading, and the mechanics of English, many modern schools systematically devote no less than one-fifth (one period per week) of the time allotted to the development of skills to finding the specific habitual errors of individual pupils and to correcting them. The sooner such errors are detected the easier they are to eliminate. Many of the diagnostic devices are pupil-corrected; in this way self-diagnostic procedures are stimulated.

In the "readiness testing" approach to determining pupil status in a learning sequence, certain cautions are in order. Such tests frequently are based on an analysis of the learnings essential to satisfactory progress in a predetermined instructional sequence. Too frequently the emphasis is placed on discovering pupils who cannot profit from a given course of instruction rather than on determining the optimum course for each pupil. That is, readiness is considered as something to wait for, rather than something that should be developed. Instead of adjusting the curriculum to the individual child, children are sorted in terms of an inflexible curriculum.

The "diagnostic testing" approach to determining pupil status in a learning sequence involves the administration of a test after a period of instruction. The test is designed to determine points of faulty or inadequate learning in a detailed and analytical manner with a view to correction. Competent teachers constantly carry on the process of checking learning through direct observation of behavior and informal testing. Expertly devised "readiness" and "diagnostic" tests have certain advantages: (1) They save the teacher much time and work, and allow more hours for individual remedial work and instruction. (2) They are based on research and expert analysis, making it possible for the teacher and pupils to become more

of such scales. In general, we know that individuals differ greatly in the rate at which a given trait develops and in the level of development attained at maturity. We also know that the various traits of an individual develop at different rates and reach different levels at maturity.

Because of the waste and discouragement involved in attempting to teach again what the learner already knows or attempting to teach him at a level far beyond his present attainment, it is important that procedures be instituted for economically revealing to both the teacher and the learner his position in a given sequence and what the nature of the next educational experiences should be if optimum development is to be achieved. Whether the process of determining the learner's status in a given developmental sequence should ever be called "remedial teaching" is questionable. It would seem to be simply good teaching procedure. It has been called remedial teaching because of faulty conceptions of the nature and extent of individual and trait differences and erroneous ideas of how the schooling process should be adjusted to them. The common criteria of need for remedial instruction have been: (1) discrepancy between measured intelligence and achievement in a given area, and (2) achievement status below grade status in a given area. The first criterion assumes that individuals have equal aptitude in all areas of learning and that this aptitude is measured by an intelligence test; the second assumes that all children should achieve up to the norms established for their age or grade group. In Chapter 3, it was pointed out that studies of trait differences refute the third assumption and the second is unsound because half the pupils at a given age or grade level are always at or below the (norm) median. The best measure of what an individual should achieve in a given area is past achievement in that area. The need for remedial attention is indicated when progress in an area is stopped or markedly slowed down over a period of time.

DETERMINING PUPIL LEARNING STATUS

The determination of pupil status in a given area of learning and the adjustment of instruction to status should be an inherent part of the teaching process. The proper use of tests in this process results in an economy of effort. Achievement tests have some value in the process, but diagnostic tests are by far the most important. A diagnostic test is one in which scores have little or no significance. It is designed to reveal the specific difficulty the individual learner is having with his work. A test, for example, that divides the whole field of English correctness into such parts as word usage, sentence meaning, grammar, punctuation, capitalization, and spelling is of use only in revealing those areas in which more specific testing is needed. Even a diagnostic test devoted entirely to punctuation in which the divisions are devoted to the use of the comma, period,

but achievement in art, music, speech, and the social sciences may be neglected.

In general, a sound achievement testing program meets the following criteria. The tests should be given systematically; i.e., the same skills should be measured year after year at about the same time of year, affording an opportunity to measure growth and status in the most important functional skills and enabling a graphic portrayal of the results to be placed on the permanent record of each child. This graphic record of growth and status over a period of years becomes indispensable in the educational and vocational guidance of the pupil.

Fall testing desirable. The tests should be administered three or four weeks after the beginning of the fall semester. There are several reasons for this: (1) It prevents the results from being used as a basis for promotion. (2) It avoids the tendency of teachers to feel that, primarily, they are preparing pupils to pass examinations at the end of the year. Thus it reduces the tendency to drill pupils only in the learnings to be tested. (3) It discourages supervisory and administrative officers from putting too much emphasis on the limited results of the tests and rating teachers in terms of these results. (4) The tests will tend to measure the more permanent learnings, because, coming after the vacation period, the temporary learnings will be reduced to a minimum. (5) Most important of all, the results of the tests give the teacher a sound basis for grouping within the class and planning the instructional program for the year. The use of test results in planning educational experiences for children thus becomes more important than the practice of using them for post mortems after a period of instruction is ended. The tests should focus attention on as many of the important and ultimate objectives of education as possible.

OBJECTIVES THAT ACHIEVEMENT TESTS SHOULD MEASURE

Achievement tests should measure the skills and the abilities that are necessary to perform tasks essential to what we call "good" daily living, such as: (1) the ability to comprehend and appreciate literature, both prose and poetry that has not previously been studied in school; (2) the ability to read, comprehend, and interpret new natural science materials and to solve simple problems in this area (knowledge of facts should be necessary but not sufficient by themselves to solve the problem); (3) the ability to read, comprehend, and interpret new social science materials and to work out easy problems in this field (this would involve such skills as the evaluation of evidence, the sensing of relevancy, generalizing, judging relative significance, and interpretation of tables, graphs, diagrams, and figures); (4) the ability to use the library and all sources of information such as

aware of the important elements, necessary order, and difficulties of the learning sequence (3) They help the pupil recognize his learning needs by systematically revealing his errors. (4) Remedial procedures are usually suggested or provided that not only save the teacher's time but also help to systematize the teaching process, thus bringing about better learning.

CRITERIA OF A TEST DESIGNED TO DETERMINE PUPIL STATUS

In order that a test designed to indicate a pupil's status in a learning sequence be most effective, it should meet the following criteria: (1) The test should be based on experimental evidence designed to reveal the sources of learning difficulties, misunderstandings, and faulty thinking (2) The test must be an integral part of the curriculum, emphasizing and clarifying the important objectives. (3) The test items should require responses to situations that approximate the functional as closely as possible. (4) The responses should be such as to reveal the mental processes of the learner. (5) Instructional procedures should be provided to correct the various errors or provide needed learning experiences. (6) The tests should be segmented, organized, and spaced to cover systematically a substantial sequence of learning. In fact, the testing should continue at regular intervals through the elementary-school period. (7) The tests, by affording the opportunity for a constant, systematic review of difficult elements, should reduce forgetting as well as detect faulty or inadequate learning. (8) Provision should be made for the pupil to keep a record of learning problems and to measure and record his progress systematically. Tests of this type are likely to deal with the more mechanical features of a learning sequence, neglecting the higher elements that require imagination, the capacity to solve problems, and creative ability. This can be defended only if the efficient handling of the mechanical aspects of the sequence result in more time being available for the application of the learning in situations that involve the more complex and creative mental processes

The measurement of growth and status using the more general type of achievement test battery has considerable instructional value if used properly This is discussed at greater length in Chapter 18. There is danger involved in using these general achievement tests, however, particularly if supervisory and administrative officers emphasize the test results in such a way that the teacher feels he is being rated in terms of the progress of his pupils as measured by these tests. If such is the case, the teacher will tend to emphasize only those skills that the tests measure, and since these are always limited in number, the curriculum tends to become unbalanced. For example, certain skills in reading and English may be overemphasized

development in the early stages with a slowing down as the higher levels are attained. In general, achievement tests give a much more accurate indication of what to expect from a pupil than do intelligence tests. They also indicate areas of special aptitude.

The achievement testing program carried on in the early weeks of the first semester affords a basis for the preliminary grouping of children in each learning area. It also gives the teacher an accurate idea of the books a child can read with profit and the degree of complexity of the problems that he can solve in various areas. Problem scales are available in the better textbooks in arithmetic, but books, in the natural and social sciences do not yet provide adequate problems for developing problem-solving abilities.

• Tests As a Motivating Condition

A defensible achievement testing program stimulates the learning activities of pupils. A test is a relatively powerful motivating condition and can be said to have three functions in furthering the learning process: (1) an *energizing* function, to increase the general level of activity and effort; (2) a *directive* function, to direct the variable and persistent activities of the learner into desirable channels; and (3) a *selective* function, to help determine which responses will be fixated and retained and which will be eliminated. Testing procedures properly conceived and executed place the control of the learning process within the teacher's power as no other teaching device does. The three functions of a motivating condition are inherent in the test situation and should serve as important criteria in the evaluation of measurement procedure.

THE ENERGIZING FUNCTION

The energizing function refers to the extent to which tests increase the level of learning activity and effort. This influence is attested by the cramming sessions that precede examination periods in high school and college. It is hardly necessary at this place to point out the many undesirable features of "cramming." The types of tests recommended here require consistent, long-sustained, and effective learning experiences. However, in many schools the examination is the "payoff." Examinations determine to a great extent when students study, what they study, and how they study. Students will scrutinize instructors throughout a course in an effort to determine what he will emphasize and what type of questions he will ask in the final examination. Unless the examinations truly measure the real objectives of the course, the value of such motivation is highly questionable. The procedure is an example of the use of tests for the purpose of marking. In the elementary school, tests are used to determine what learn-

ing has been achieved and what future learning experiences will be most beneficial for each child. They are used for educational guidance, not for rating. Nevertheless, the tests are stimulating to the pupils because each child is usually eager to make a good showing and to demonstrate what he has learned and can do.

THE DIRECTIVE FUNCTION

The directive function refers to the extent to which tests determine what teachers teach and how they teach, and what pupils learn and how they learn. The fact that the results of tests have some power to do this is well established. In regional, statewide, and local school testing programs in which schools, teachers, and pupils are rated and judged to some extent by the test results, the nature of the tests largely determines the quality of the educational process. When tests are imposed upon the teacher and pupil, with important quality judgments involved, they become powerful instruments for determining educational goals and methods. The effects may be good or bad, depending upon the nature of the tests.

If the tests are based on traditional curriculum materials of the factual type, designed to determine the amount of textbook material that has been memorized, they have the effect of "freezing" the curriculum and making both teachers and pupils satisfied with the *status quo*. Such tests encourage memorizing or cramming rather than the understanding approach to study. They emphasize the traditional standardized curriculum and prevent teachers from making adaptations in terms of the peculiarities of the local community, of their pupils, and of their own interests.

If, on the other hand, the tests measure the basic study skills, problem-solving and creative abilities, emphasize the application of generalizations in new situations, clarify important but frequently neglected objectives, and focus attention on the ultimate objectives of education—the permanent learnings—then they have the important function of "thawing out" the traditional curriculum of the schools, and of stimulating more acceptable, meaningful, purposeful, and effective learning experiences. This kind of test encourages the teacher to use more vital and stimulating materials and to improve the learning experiences of his pupils. Certainly the most important criteria of the value of an achievement test is the degree to which it directs teaching and learning procedures into desirable channels resulting in the achievement of important educational objectives.

THE SELECTIVE FUNCTION

The selective function concerns the degree to which the tests help fixate and retain desirable behavior and eliminate errors. This function depends

not only upon the nature of the test but also upon how it is scored, and upon the emphasis placed on individual errors, remedial work, and follow-up procedures. Achievement test batteries tend to be too general for diagnostic purposes. The sampling of items is too limited and the organization too lacking in specificity for such tests to be considered as adequate guides for planning and directing educational experiences for individual children. A detailed analysis of the errors made on such a test has value but its possibilities are limited by the too-broad sampling of materials and skills.

The selective function of measurement is related to the diagnostic function previously described. In diagnostic testing, emphasis is placed on informing the teacher and pupil of the nature and causes of the errors that characterize the learning behavior of the pupil. Maximum learning of a selective nature occurs when students are permitted to score their own papers and then discuss immediately their errors and begin their remedial work. Logic and experimental evidence indicate that in the test situation the more immediate and direct the student's knowledge of when and why he is correct and when and why he is in error, the greater the likelihood that he will fixate and retain the correct response.

• Pupils Should Think of Their Achievement in Objective Terms

A comprehensive achievement testing program enables pupils to think of their achievement in objective terms rather than in terms of the subjective appraisal of teachers. For example, it is stimulating to a child to know that during the past year he has gained nine, twelve, or sixteen months in reading comprehension. It is difficult to imagine a boy who is practicing the high jump being satisfied with the appraisal that he has "done very well, probably better than he has done before." It is more stimulating to know that he cleared the bar at four feet, nine inches and that this is three inches higher than his previous record. Objective measures make it possible for the pupil to compete constantly with his past records and performances and to think in terms of individual progress, rather than be rated solely on his relative standing in the group. Of course, objective knowledge of progress is only stimulating when progress is being made, but since almost all pupils show rapid progress at the elementary school level, most pupils will be stimulated.

A comprehensive testing program of the type recommended here enables the teacher to know the effectiveness of learning experiences in the various areas of the curriculum. It indicates those areas in which modifications

in the curriculum are desirable and where, perhaps, supervisory aid is needed

• The Test Is a Learning Period

The importance of systematic testing procedures in the development and maintenance of skills and abilities should be recognized. When the tests are functional; i.e., the items are such that they approximate the situations in life in which the learning will function, they may be considered not only good test items but also excellent teaching questions as well. Such a test becomes an effective learning device because it requires relational thinking and problem-solving effort, and not mere recall or recognition of previous learning. It is probable that the additional motivation resulting from the test situation together with the problem nature of the items result in one of the most effective learning experiences that the school affords.

The potentiality of tests for stimulating learning, especially in the skill and problem-solving areas (notably reading, arithmetic, science, and English correctness) has resulted in the publication of sets of bound tests in which the development and maintenance of skills and problem-solving abilities are more important than the measurement function. Of course, standardized scores are furnished to measure week-to-week progress but the real purposes of the tests are to develop and maintain problem-solving skills.

The characteristics of such drill-tests are: (1) The maintenance program is integrated with the developmental program. (2) The administration of the drills is spaced to afford maximum maintenance and review with a minimum expenditure of time. (3) Each drill is graduated in difficulty to enable each pupil to solve problems up to the limits of his ability. (4) Difficult aspects of problem-solving occur with planned regularity to afford a systematic basis for the diagnosis of specific difficulties. (5) Remedial work is provided for each type of deficiency revealed by the tests. (6) There is practice on all aspects of the skill prior to the testing.

Materials of this type have been available in the better-designed workbooks and in the form of self-testing drills for many years. If teachers are to use them effectively, it is necessary that they understand in detail how these workbooks and drills are constructed and what is their proper place in the sequence of learning experiences. It is necessary to provide such materials at several levels of difficulty if provision is to be made for the range of ability in a grade. Such materials have frequently been overused and reduced in effectiveness to the level of meaningless drill materials.

However, when the teacher and pupils understand the purposes for which the materials are designed and they are used correctly for the maintenance of skills, diagnosis of difficulties, and measurement of progress, they are very effective.

The evaluation of the schools by school officials, parents, and the community at large should be a continuing process. Frequently, this type of evaluation is mainly to determine how effective the schools are. However, it should not be necessary to administer special tests for this specific purpose. If the battery of tests described previously for the purposes of measuring growth and achievement is administered regularly each September or October, it will afford a wealth of information regarding the effectiveness of the schools. The tests were selected primarily for their influence in clarifying and stimulating the achievement of educational goals. The influence of tests on the instructional program should always be the central consideration in a testing program regardless of the immediate purposes for which the tests are given.

• Studying Child Behavior

Teaching involves the constant study of child behavior in order that learning activities may be appropriate to the needs, interests, and abilities of the child. We learn about the behavioral peculiarities of a child in three ways: (1) observing directly the child's behavior or a product of that behavior (free observation, directed observation, and test scales of various types); (2) asking others who have observed the child to submit objective reports on behavior or relative ratings of behavioral traits (questionnaires, anecdotal records, and rating scales); and (3) directly questioning the child about his behavior, his attitudes, his beliefs, and his interests. Refinements in these three methods of studying behavior have come about through more exact descriptions of traits, more rigorous control of the conditions under which traits are observed, and the quantitative treatment of observations. These make possible the placement of an individual with reference to such things as the distribution of various traits in a specified population, the determination of the relationship among traits, and the relationship between trait development and the various aspects of educational procedure.

DIRECTED OBSERVATION

Refinements in the procedures for observing behavior have resulted in two types of instruments, those of *directed observation* and *tests*. When the

situation in which the behavior occurs is not controlled but the aspects of behavior to be observed are specified, and the observations are recorded, analyzed, weighted, and expressed quantitatively, the technique is called *directed observation*. Behavior traits that are likely to be seriously influenced by the requirements of a test situation or that may be observed in children too young to be controlled for the requirements of a test are assessed by this procedure. Examples are: (1) "nervous" habits, such as sucking the thumb, biting the nails, twisting the hair, ties, posture, and so forth; (2) behavior involving the virtues of honesty, kindness, courtesy, respect for authority, and the like; (3) interests in objects, people, and activities, and (4) characteristics of motor behavior requiring coordination and skill.

TESTS

When the situation to which the child responds is precisely controlled and the responses recorded, weighed, and treated quantitatively, the technique is called "testing." In testing we are concerned with what the child can do under prescribed and standardized conditions. Although tests have been devised for measuring physical, motor, emotional, and social traits, their chief use up to now has been in measuring intellectual development. Because testing is an integral part of educational programs, emphasis on certain of its other phases is desirable.

Whenever the results of tests are used in a systematic manner to gauge the efficiency of instruction in terms of the progress and present status of pupils, the items of knowledge, the specific skills, the attitudes, and abilities measured by the tests have a strong tendency to become the objectives of both teachers and pupils. This is true whether the tests used in the evaluation of an educational program are constructed by an agency outside the school system (state department, county superintendent, research bureau, or test publisher) or by the teachers and supervisory staff of the school. If the tests measure only the ability to recall or recognize isolated bits of information chosen at random from textbooks and other curriculum materials, educational procedure tends to stagnate into a mechanical process of memorizing the answers to the test questions. If, on the other hand, the tests are devised by individuals who have insight into the true objectives of education and possess ingenuity sufficient to devise ways of measuring such development, the influence of the tests may be highly beneficial.

The criteria that tests must meet if their effects are to be in harmony with the objectives of a modern curriculum are as follows:

- (1) All the important objectives must receive attention, for those neg-

lected in the evaluation program will be neglected in the instructional program.

(2) The mental processes required by the tests must be those required in intelligent behavior in life outside the school. For example, what are the mental processes required in such situations as planning, building, and decorating a home, planning nutritious meals, buying insurance of various kinds, making an investment, evaluating the effectiveness of a social agency, reading newspapers and journals, selecting and succeeding in a vocation, voting intelligently, and cooperating in community projects? Certainly the following are among the most essential. (a) the ability to read literary and factual materials rapidly, and with comprehension; (b) reading for different purposes such as to follow directions, to skim for information, to summarize, to organize, to outline, to criticize, to evaluate, to remember, to enjoy, and so forth; (c) the capacity to use basic reference materials effectively: dictionaries, encyclopedias, atlases, handbooks, almanacs, library card files, and reference books of a more specialized nature; (d) the ability to interpret a wide variety of maps, graphs, tables, charts, diagrams and figures; and (e) in the various content areas, the proficiency to reorganize and to analyze data, to generalize, to apply principles in new situations, to propose and test hypotheses, to draw inferences, and so forth.

(3) The tests should measure the results of good teaching practices with such precision that they will help to clarify the true educational objectives for teachers and pupils.

(4) The tests should reveal not only the results of a mental process but also the steps in the process in order that specific deficiencies may be diagnosed.

(5) The tests should be of such a nature that effective preparation for them results in good teaching procedures and effective study habits.

Rating scales. Refinements in the procedure of asking others their opinion of an individual's behavior have resulted in the rating scale. Ratings may be made by the teacher, the parents, or the pupils themselves. Perhaps the best known scale for rating school behavior is the Haggerty-Olson-Wickman *Behavior Rating Schedule*.¹ Most report cards of the past have contained such items as deportment, punctuality, courtesy, citizenship, respect for the rights of others, and industry that were rated by the teacher. Many modern report cards provide for ratings by parents as well as by teachers. Ratings by pupils under favorable circumstances should be de-

¹ M. F. Haggerty, W. O. Olson, and F. K. Wickman, *Behavior Rating Schedule*. Yorkers, New York: World Book Company, 1930

fended because it directs the pupils' attention to the criteria of good behavior.

Although ratings of behavior characteristics have been found to be highly unreliable from the standpoint of accuracy and consistency of measurement, their use in the school can still be justified from the standpoint of their influence upon those being rated and upon the rater. Rating technique requires that the rater be analytical in his judgment, breaking down behavior into many elements and devoting his attention to each. If used properly, it stimulates the person being rated, focusing his attention on those aspects of behavior that require attention and keeping alive within him the desire to improve. Self-rating is most defensible from this point of view.

Questionnaires. Perhaps the most natural method of learning about an individual's behavioral characteristics and the factors that influence them is to question him. Of course, his answers may be influenced by the degree of his willingness to tell the truth, his interpretation of the questions, and the accuracy and extent of his knowledge of the facts. Considerable research has been undertaken to determine the degree to which these factors influence responses to various types of questions at different levels of development. Questionnaires have been developed for measuring the educational background of pupils, the socio-economic status of the home, the nature of pupil adjustment to various aspects of his environment, and pupil attitudes and interests.

• Discussion Questions

1. Why are both observation and evaluation inherent parts of the learning process?
2. Explain and give examples of how observation differs from evaluation.
3. Explain and give examples of how evaluation and measurement differ.
4. How have your courses in education made you a better observer of child behavior?
5. Give instances in which you have carefully observed your own behavior with a view to evaluation and improvement.
6. Give instances in which the taking of a test has helped clarify educational goals for you.
7. When objective tests were first developed, they were used in the traditional framework of school organization and teaching (as examinations had always been used), to determine grades, promotion, and the classification of students. Show how the uses of tests emphasized in this chapter differ from the traditional uses. Defend and criticize these new uses.

8. Obtain a copy of a reading readiness test. Make an analysis of the abilities necessary for beginning the teaching of reading and discuss how these abilities can be developed in the kindergarten and primary grades. In what situations may these abilities be observed apart from the test?
9. Obtain a copy of a diagnostic test in arithmetic or in a language field. Analyze the test from the standpoint of common errors and difficulties. What can a teacher, possessing such knowledge, do to increase the effectiveness of instruction?
10. Make a list of important educational objectives that cannot now be measured by tests. How can pupil development toward these objectives be observed?
11. What are the dangers inherent in a testing program designed to measure the effectiveness of teaching?
12. Make a list of cues or criteria that a teacher can use to determine a proper sequence of learning experiences.
13. To what extent is the development of motor, social, and intellectual abilities sequential in nature?
14. What are the disadvantages of sporadic attempts at remedial teaching?
15. What are some of the characteristics that tests must possess if they are to be used to measure status and growth systematically?
16. Point out the faults of the testing program of any school with which you are acquainted. Point out the desirable features of the program.

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PART

Building upon a background similar to that presented thus far in this book, the curriculum outlines in our country take shape and are put into practice. These outlines are important educational tools. There are many conflicting theories regarding their organization and use.

Most curriculums represent a compromise between the best theory and what is actually being done. Some of these compromises arise from inadequate experimental knowledge in the transfer of the ideal laboratory situation to classroom practice. Some of them are due to shortcomings in teacher education and preparation. Every effort is being made to close this disappointing gap between theory and practice.

This second part describes some of the common ways in which curriculums and curriculum outlines are organized and written, and some of the relationships of content and subject matter to the objectives and organization of curriculum. It attempts to identify some of the important characteristics of a curriculum. Separate chapters are devoted to various subject fields, and lead up to the descriptions of classroom procedure in Part Three. It provides the basic knowledge that a teacher should have in order to teach with maximum efficiency.



CURRICULUM

The curriculum must reflect the constant change in the way we live and the many dramatic advances in our scientific knowledge and technical skills. Here, ordinary ping-pong balls and simple mousetraps are used to illustrate and explain the theory of chain reaction which is the key to the new Atomic Age.

We have defined the curriculum as the sum of the educational experiences that children have in school. This is a broad definition. The experiences that the child has in school may "educate" him in undesirable as well as in desirable directions. For example, a child may learn in school to dislike arithmetic or literature, or he may learn to enjoy and appreciate both. It is necessary to remember that education in a broad sense may be either good or bad. It may be bad either because it has wrong or faulty goals or because there is inefficient or improper implementation of the goals. For wrong goals, witness the indoctrination that is found in schools in totalitarian countries in their attempts to turn out graduates who are subservient to the state and who follow orders in a blind, unquestioning manner. On the other hand, unfortunate results may derive from efforts to realize sets of objectives that are meant to be the best in the world; thus, the first problem in achieving a desirable curriculum is to determine satisfactory objectives, and the second problem is to be alert constantly to see that appropriate means are selected and properly used so as to contribute to the objectives that have been selected.

THE NEED AND BASIS FOR CLEAR OBJECTIVES

The nature and quality of the real curriculum of a school system is determined very largely by the ideals and values held by the teachers and other staff members, by the pupils and their parents, and by the community. The educational goals of the teachers, the pupils, the parents, and the community are all interrelated; they influence each other and determine the quality of the educational system. The objectives of a school will not be much better or much poorer than the aspirations of those concerned with it.

Great attention has been given to the formulation of educational objectives that should guide the schools. Most curriculum guides developed for use by state and city school systems

STRUCTURE

begins with more or less comprehensive lists of educational objectives. However, the time given to the setting up of objectives is well spent if it leads to deep insights into the nature of education and a clear conception of the place of education in the promotion of human welfare and happiness. To be worthwhile, a statement of objectives should make itself evident in changes in teaching procedures, in supervisory and administrative policies, and ultimately in the ideals, values, skills, and behavior of the people of the community. Unless such lists become more than pious hopes and perfunctory gestures, their formulation and publication are a waste of time. Study of the characteristics of man, the characteristics of the universe, and of man's social heritage, together with the study of the history and philosophy of education, of comparative education, and of education and the social order contributes to facility in relating content and method to the objectives of the curriculum.

The over-all goals of education are outlined briefly with only enough detail so that the reader may see that knowledges, skills, and attitudes relate to each other and to human welfare. With reference to each of these goals there are many subordinate, related objectives that must be taken into account at the proper time. Ultimately, the teacher becomes concerned with many immediate and specific objectives such as how to learn the meaning of a new word by relating it to other known words which are similar, by phonics, by getting it from context, and by using the dictionary. Again, to use the dictionary efficiently there are objectives which have to do with alphabetizing, using pronunciation symbols, and selecting the correct meaning when a word has more than one meaning. These more specific outcomes will be discussed in other chapters.

• The Characteristics of Man

An outline of the characteristics of man may serve as a frame of reference for a discussion of educational goals. It suggests some of the factors that must be considered in setting up adequate objectives for the schools. It provides a basis for a discussion of educational goals that encompasses the realization of the fundamental needs of human life.

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|---|---|
| <p>(Characteristics)</p> <ol style="list-style-type: none"> I. High intelligence <ol style="list-style-type: none"> a. High capacity to learn, to profit from experience, to | <p>(Implications for Elementary Education)</p> <ol style="list-style-type: none"> I. The realization of man's highest aspirations depends upon the exercise of his intelligence in the solu- |
|---|---|

do abstract thinking, to adapt to new situations. Plasticity and modifiability

b. A social being whose goals are:

1. Social approval and status
2. Intimate response, love, affection
3. Security with reference to body, status, and property
4. New experiences

II. Organic needs

A limited range of food, drink, air and temperature requirements.

Rest and action

Sex

Tender body, highly sensitive to pain

III. Articulate speech

IV. Human hand—opposable thumb

V. Upright posture

tion of problems in the realms of family life, health, economic production, government, education, philosophy, art, science, and recreation. That man is intelligent and that intelligence must be free is a fundamental assumption of democracy. *Freedom of thought, conscience, speech, the press, assembly, etc., follow from the free exercise of intelligence. Preparation for all of this should begin in the elementary school.*

II. Human needs for food, drink, clothing, shelter, fuel, heat, light, power, etc., provide children with much of the material for study in their early years in school.

III. Articulate speech is a basis for language, reading, writing, and all other forms of communication essential to the accumulation, transmission and symbolic manipulation of quantitative and qualitative thought. It is a fundamental tool of the intellect.

IV. Man is a tool-using and instrument-manipulating animal. Manual skills are as characteristically human as intellectual skills. Man is a working animal and needs instruction in many basic skills.

V. Man is a forward- and upward-looking animal with forearms free to handle tools, to manipulate objects, and to gesture.

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| <p>VII. Wide range of individual and trait differences</p> <p>VIII. Racial groups, based on biological differences in color, hair, texture, etc.</p> <p>IX. Emotions and mechanisms of adjustment to self, society, and the culture</p> | <p>VII. The irreducible variation within grades or classrooms makes a broad flexible curriculum essential. The elimination of single or limited standards and the substitution of a multiplicity of personal and vocational goals is necessary.</p> <p>VIII. Intercultural relations and problems must be understood.</p> <p>IX. The dynamics of human behavior as a means of attaining a sound emotional and social adjustment must be understood.</p> |
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• The Universe and Man

Man exists in a physical environment with which he reacts constantly. The characteristics of man as a living, thinking, speaking, adjusting, propagating, growing, and emoting creature are closely dependent upon the characteristics of the world in which he lives. All living creatures depend upon and are influenced by their environment. Man is distinct in that, in turn, he manipulates and modifies the environment for his own purposes. Let us look at a brief outline of the things man encounters in the universe.

- | (Characteristics) | (Some Suggested Educational Goals) |
|--|---|
| <p>I. The solar system, the planets, the stars, and galaxies</p> <p>II. Geological processes</p> <p>III. Matter and energy</p> | <p>I. Children may be introduced to the interfunctional relationships of the universe and solar system, to the sun's role in the solar system, to the science of astronomy, to some of the fundamental physical laws, to the earth's role in the solar system.</p> <p>II. Children will see the active forces in geological processes and the changes that have taken place as a result of these processes.</p> <p>III. Some elementary-school children will understand some of the simple physio-chemical relationships. The concept of the indestructibility of energy will be of interest to some, as will be the idea of elements as "the building blocks" of</p> |

is dependent upon a long period of infancy. The dependency of infancy is the basis for the human family, the tribe, and the clan, and is related closely to the development of language and numbers—the fundamental tools of a developing civilization. The basic social institutions—the state, the church, the economic system, the school—had their beginnings in the family at a time when the family was self-sufficient. These basic social institutions exist in some form in every culture and are part of the evolutionary process of a civilization. They are essential in satisfying man's needs. The particular form these institutions take in a given culture and the specific needs that they fulfill are modified by man's cultural history, cultural context, natural resources, inventions, discoveries, and biological characteristics.

If man were to live in his physical environment without various forms of social organization, it is doubtful that he could survive even in primitive fashion. The fact is that man has shown a great deal of ingenuity in creating and using social institutions for his purposes. Many of the vital goals of education may be organized around these institutions. In the more or less detailed study of these institutions, much that children (or adults for that matter) need to learn may be learned. The two preceding outlines showed some of the characteristics of man and the characteristics of his environment. A third outline, that of man's social heritage is given below.

(Basic Social Institutions and
Their Functions)

- I. *The family* with its kindred customs serves to propagate the race, furnish protection and care of young and aged, provide for intimate social and sex relations, and for early childhood education.
- II. *The economic system* with its vocations, professions, trades, industry, commerce, and insurance serves to sustain life and insure comfort by furnishing food, clothing, shelter, transportation, communication, tools, utensils, weapons, and luxuries.
- III. *A democratic government* in its various governmental, political, and judicial forms provides for property control,

(Some Suggested Educational
Goals)

- I. Knowledge, skills, attitudes, abilities essential to happy family life, courtesy, cooperation, are indispensable in the intellectual and emotional growth of the child.
- II. A curriculum must be broad enough for each child to discover his strengths and limitations in order to find his place in the world of work, make his choice of occupation, and insure his economic security.
- III. It is essential to the preservation of our culture that a child learn to understand the true purpose of government and fulfill the duties of

welfare, health and police protection, etc., and protects life and property against external or internal enemies and exploiters of the group, and insures life, liberty, and the pursuit of happiness.

IV. *The schools* and related institutions such as libraries, institutes, etc., transmit and further develop the cultural heritage by organizing, refining, selecting, graduating, and enhancing the culture for transmission to each succeeding generation. Through mathematics and science the schools furnish a language of precision for quantitative thinking. They refine, check, and order the products of intelligence.

V. *Philosophy and religion* with their spiritual values, standards, and mores give motive, purpose, and understanding to life, and system to the universe.

VI. *Public opinion and information* through newspapers, journals, radio, and public forums promote and direct civic and cultural progress.

VII. *Medicine*, the hospitals, the clinics, and the preventive measures promote both physical and mental health.

VIII. *Recreation* serves to give diversification to life.

IX. *Philanthropy* as practiced by the Community Chest, the Red Cross, etc., promotes human welfare in distress areas not served by other institutions.

a citizen of a democracy in peace and in war. It is also important that he realize under what conditions government serves the needs of the group and under what conditions it serves the purposes of the exploiters of the group and of those who seek special privilege.

IV. The child must come to understand and appreciate the social and scientific role of the school, and its task in developing the ability to live purposefully and dynamically in a democratic world. The schools should teach him to think quantitatively and scientifically, to understand the physical and social environment, and to use the scientific method as a technique for problem solving.

V. The schools help the child to acquire a sustaining philosophy of life and criteria of values.

VI. The child gradually learns to distinguish between fact and opinion and to separate issues and news from propaganda.

VII. The child must learn to keep physically fit, thus insuring community health and safety.

VIII. The child will learn to live a more complete life through recreation.

IX. The child will practice the ethics of contributing to the welfare of others.

• The Basic Tools of Civilization and Culture

During the growth and development of civilization, man has had four basic tools—language, mathematics (which is the language of science and precision), the arts, and science.

(Basic Tools)

- I. *Language* is the product of man's biological powers of articulate speech and of his necessity to live always in a social group. The development of a civilization may be measured by its vocabulary. The ability to speak, to read, to write, and to understand, is a measure of man's education and over-all competence. It is through this means that man has developed his civilization and his power to communicate and preserve his culture.
- II. *Mathematics* is a language of precision and quantity; a cultural tool which enables man to carry on commerce and industry, to build his homes and his skyscrapers, his bridges, his airplanes, and to determine the nature of the universe.
- III. *The arts* are commonly identified as rhetoric, literature, painting, drawing, sculpture, music, architecture, and design but include the efficient and skillful performance of any significant task. All are concerned with the control and direction of man's emotional status—his moods, his feelings, his attitudes, his beliefs, his loves, and his hates.

(Some Suggested Educational Goals)

- I. Every aspect of education should be concerned with increasing the student's understanding and his power to convey and receive ideas.
- II. An understanding of the number system in mathematics is essential in our civilization and this ability should be developed in every child.
- III. Art should pervade every aspect of everyday living—the way a person dresses, walks, speaks, and writes. Art is one of the basic elements in the formation of man's moods, his hopes, his faith, and his self-respect.

IV. *Science* may be conceived as a method of identifying and solving problems. The development of science has been responsible for the great changes to which man must adjust in industry, warfare, conservation, health, government—almost everywhere we look.

IV. Science in the elementary school is concerned with bringing about a functional relationship between man and his environment. There should be understanding of the physical and social environment and of the scientific method as it has been applied as a technique in problem solving and in refining, checking, and ordering the products of intelligence.

OBJECTIVES ARE BASED ON PHILOSOPHY AND SCIENCE

A consideration of the four outlines above provides a good basis for a discussion of the objectives of the schools through which man seeks to perpetuate and improve his culture and insure the welfare of future generations. We come, necessarily, to a question of values.

The educational philosophy of the authors is summarized in the statement that education should serve welfare. Human welfare, which depends upon the successful and efficient learning of many things, consists in the welfare of individuals. The nature of individual differences has been stressed and we will emphasize again in succeeding chapters the peculiar problems that man faces in reacting to and controlling his environment in order to insure his welfare. We have emphasized the research bearing on the nature of intellectual and social learning, and, with reference to basic sciences, the psychobiological nature of man. Motives, as they spring from organic and social needs, and the techniques by which we measure the extent and effectiveness of learning have broad implications for human welfare. Man lives in groups in his society, in urban and rural communities; his society has definite structural characteristics, and his culture is marked by certain customs and mores. As an individual in a society he develops a personality. We have collected in one place some significant illustrations of the most influential ideas uncovered by artists, social scientists, and natural scientists, and suggested some of the educational theories the teacher may apply using many of the subtle and abstract arguments from these fields. Our purpose is to stimulate ideas and generalizations that will help teachers to enrich their teaching. These ideas and generalizations are foundation stones for a curriculum; they are the basis upon which to build the child's elementary-school experiences.

Throughout, we have stressed the twin ideas of interrelatedness and interdependence. The interdependence of man upon man, and of man upon his environment is in constant evidence. Interrelatedness is also be-

coming more clearly understood. For example, we have seen that one cannot regard a child from the psychological standpoint without also considering the biological, the social, the anthropological, and others. All the natural sciences are interrelated, too, as witness some of their joint names: physical chemistry, biostatics, biochemistry, and astrophysics.

The child will not necessarily sense interdependence and interrelatedness; it is the teacher's responsibility to make him aware of them. The understanding teacher will find many opportunities to show children that they are part of a family and have responsibilities to each member of the family. They can be shown how father earns money in a certain way, and how the fathers of the other children earn money also. They can study about the welfare of the family. All the basic institutions are around the child in his neighborhood and he can see them as they function there. He can learn when very young that reading, writing, art, arithmetic and even science are only tools to help him understand. Later he can see, for example, that economics is not something we find in textbooks but rather something that goes on in his own community and other communities. He can learn to study family life in his community as well as in textbooks. The teacher can stimulate the child to think of interdependence and interrelatedness in his community to see that the whole community works together, and that every social institution impinges itself upon him for he is in the midst of the whole social process.

Progressive educators warn us against "atomistic" thinking that separates children into such components as mind, emotion, and physique. They oppose mechanical teaching, which takes subject matter out of its functional setting. This new line of thinking, with its reference to "wholes"—including social wholes or class groups—is part of a broad cultural movement that was started first in physics and was furthered in biology and in sociology and, last, in psychology. This movement led to the formulation of the phrase "common learnings" on the elementary level, "core curriculum" on the secondary level, "general education" on the college level, and "the unity of science movement" or "interdisciplinary research" (work carried on jointly by anthropologists, sociologists, psychologists, and economists) at the graduate-school level. There is much current research that will contribute further to our knowledge of children and their environment if we can come to understand this move away from the "atomism" of the nineteenth century.

AN EXAMPLE OF A BRIEF STATEMENT OF GENERAL OBJECTIVES

Implicit in the two ideas of interdependence and interrelatedness is the assumption that the promotion of human welfare is the concern and re-

sponsibility of everyone. With this premise in mind, many individuals and groups set out to formulate in some neat way a set of objectives that will be all-inclusive. It is interesting to notice the many ways that have been discovered by which to state the objectives of education. Some tabulations list five or six broad classifications while others use greater detail. There is great similarity between the lists regardless of the way they are broken up. An illustrative statement of the objectives of general education is given below.

• Objectives of General Education¹

1. To understand other persons' ideas correctly by reading and listening, and in turn, to express ideas effectively to others through written or oral speech.
2. To understand the dynamics of human behavior as a means of attaining a sound emotional and social adjustment.
3. To improve and maintain personal and community health.
4. To enjoy a wide range of social relationships and to work cooperatively with others in common enterprises.
5. To acquire the knowledge, attitudes, action patterns, and values that are necessary for a satisfying family, social, civic, and vocational life.
6. To take an active, intelligent, democratic, and responsible part in the affairs of the community, state, nation, and world.
7. To become acquainted with the principles of the natural environment, and of physical and biological phenomena.
8. To understand the application of scientific facts and principles to human affairs; to understand and appreciate scientific method and attitude, and to use them in the solution of a wide range of personal, social, and scientific problems.
9. To understand and enjoy the natural environment.
10. To understand and to enjoy literature, art, and music as an expression of human experience in the past and present; also, if possible, to participate in some form of creative literary, artistic, or musical activity.
11. To recognize the values implicit in conduct and in concrete social issues, to examine these values critically, and to develop a coherent set of principles for the evaluation and direction of personal and social behavior.
12. To think critically and constructively in dealing with a wide range of intellectual and practical problems.
13. To learn the language of numbers, to develop skill in arithmetic and mathematics, to develop insight into the number system, and to understand why and how to use it to the level of one's aptitudes and abilities.
14. To understand our American history, our constitution, our culture and our relationships to other countries and peoples.
15. To understand the structure and function of our various governmental units and the value systems upon which they are based.

¹ Developed by the authors from T. R. McConnell, "Liberal Education After The War," *The Annals of the American Academy of Political and Social Science*, Vol. 231, January 1944, 86.

16. To choose a vocation that will enable one to utilize his particular interests and abilities to the fullest and to make his work socially useful.

17. To enjoy and participate in games, sports, and other recreational activities suitable to one's level of development and aptitudes.

18. To develop motor control essential to graceful coordination of bodily movements and adequate skill in handling and using the common tools and implements.

Necessary as they are, there are many dangers involved in the use of stated objectives. One is that we use them merely to rationalize or justify what we are already doing, regardless of its fundamental appropriateness. A second is that we assume that the child, without assistance from us, can see the worth of the objectives we have selected. A third is that we think all children can progress with equal speed and skill toward our objectives. A fourth is that we assume all adults or all school systems must agree on the objectives we find valid. A fifth is that we do not relate our objectives to our methods and procedures. A sixth is that we cease to examine and refine the meanings and insights that are involved in our objectives and that, as a consequence, our objectives serve to crystallize our aims and ideals far short of their potentialities. This last point is most important. To refine our objectives we must develop detailed objectives in various areas of learning. For example, in silent reading, all the intellectual skills involved in effective study must be consciously developed. These detailed objectives are taken into account in the chapters that deal with the various subject-matter areas.

FOUR WAYS TO HANDLE SUBJECT MATTER IN THE CURRICULUM

At the turn of the century, and for some time thereafter, typical elementary-school courses of study were composed of subjects which were taught separately. Even today this type of organization is found in many elementary schools, though in recent years the trend has been away from it. We still identify learning areas by such names as geography, history, physiology, hygiene, arithmetic, spelling, reading, writing, grammar, music, art, civics, economics, conservation, and composition. These are essentially the names of "subjects" for study. They are useful for many purposes. They are often thought of as providing the subject matter and skills necessary for the attainment of objectives such as those above. However, these "subjects" are much broader than that. In addition to content to be memorized and skills to be mastered, they include attitudes, ideals, habits of study and of persistence, problem-solving techniques, skills in finding hitherto unknown data, and ways to get along with people everywhere—from the neighborhood to the great, wide world. Excellent teachers sometimes feel constrained by the narrow boundaries of content-to-be-memorized, skills-to-

be-mastered, and attitudes and feelings to be developed. However, as learning theory has advanced, different types of subject matter organization have made their appearance. Though they are classified and described variously by different writers, it may be convenient to classify them according to four categories.

Separate-subjects organization. In a separate-subjects instructional program, arithmetic, geography, history, spelling, writing, and many other subjects are taken up in separate periods of the school day. The children study arithmetic, for example, in a group. As the weeks pass, they progress from the simple to the more complex processes, learning to solve problems that grow progressively more difficult. Many of the brighter children are not adequately challenged by the work and many of the slower children become hopelessly confused as they fall behind, for the work in such a curriculum is generally geared to those whose abilities, in this case arithmetical, are about average. The problems that the children work with are artificial and have little functional relationship to the other subjects. Spelling words are selected by someone who has tried to organize them in terms of their increasing difficulty or of the child's need for them. Geography is often taught separately from history; frequently the historical illustrations necessary for an understanding of geography and the geographical background necessary for history are so much out of relationship to one another that the intrinsic "oneness" of the two subjects is never understood by the children. Where separate-subject organization is the rule, one frequently hears the complaint by teachers that other teachers fail to insist on good grammar during the geography or the history period or fail to require good composition in papers on history or in science. With a separate-subject organization, children may run across geographical discussions of relative humidity or percentage figures relating to population or agricultural production before they have been introduced to such concepts in their science and mathematics. They may be studying about children of Holland or Japan in their geography while their history is dealing with colonial life. Educators have tried desperately, but have not been able, in the *separate-subjects organization*, to overcome the barriers in the way of caring for individual and trait differences while integrating learning so that all that is learned may be brought to bear in a meaningful way on thinking and problem solving.

Correlated subject matter. People who are not familiar with modern educational practices often complain that our schools today are geared to the average and that the very slow fail because they cannot keep up while the more intelligent pupils become bored, wasteful of their time, and often unruly and impolite. The point to remember is that these things were much more common in the old-fashioned separate-subjects organization than in

a more modern experience program. The determining condition, however, is not so much the content of the curriculum as it is the methods of presentation. Many critics are scolding about the schools with their "new progressive education" while actually their schools have changed very little and the results they resent will only be changed as the schools adopt some of the better modern methods.

In an effort to overcome the confusion, inefficiency, and unwieldiness of the separate-subjects organization, some educators, early in the nineteenth century, developed the idea of correlation. Immediately a lively debate arose in educational circles over the merits of the new system. Essentially, the thought behind the new theory was that the various subjects in the curriculum should be related and organized so that one reinforced and complemented the other. Advocates of correlation attempted to defer the use of arithmetical concepts in other subjects until such time as those concepts had been adequately covered in the arithmetic courses, and to teach the geography of a region at the same time that the history of that region was studied.

Core. One of the most fruitful attempts at correlation arose from choosing one of the main subjects as a *core* subject. This core subject was generally broadened somewhat and the subject-matter organization of the other subjects was made to fit as much as possible into its scope and sequence. This was not insurmountably difficult in *some* of the social science subjects, but it presented special difficulties in the natural sciences, in mathematics, and in special subjects such as art, music, literature, and the like. This was particularly true because the content of many of these subjects had become "frozen" into special forms. For example, certain poems and passages "had" to be read and learned; no others could be substituted for them. Some subjects had certain prerequisites that were traditional in nature, but neither logical nor scientific in their basis.

Broad fields. The tendency in the correlated organization to depend upon a core subject led to a form generally known as the broad-fields organization. In this form of organization, several cores or "broad fields" are chosen and a great deal of correlation is possible within each one, because of the similarity of the subject matter. One of the broad fields sometimes selected is language arts, or communication. It includes reading, writing, spelling, grammar, punctuation, oral speech, and listening. Social studies is another, and includes history, geography, civics, the American way of life, the Constitution, and so forth. Other broad fields are health and physical education, the arts, and arithmetic-science. Under the broad-fields organization, the number of periods during the school day is greatly reduced and the opportunities for sustained activity, motivation, and more meaningful learning are greatly increased.

TYPES OF ORGANIZATION OVERLAP IN PRACTICE

In actual practice, however, these four types of subject-matter organization cannot be rigidly separated. They merge into and overlap each other. In the separate-subject plan, teachers were able to relate the various subjects to one another in various ways, and the more capable teachers did so. Strong-minded teachers frequently dared violate the rigid prescriptions of the subject outline and the time schedule in bringing about more effective learning situations. It is frequently difficult to differentiate broad-fields organization from a core or subject-matter organization in the actual classrooms because so many of the characteristic elements of both are present and overlapping.

THE DEVELOPMENTAL-ACTIVITY CURRICULUM

Modern schools seek to achieve the objectives society has set for them by basing their instructional programs on the characteristics of man, the kind of universe in which he lives, his social heritage, the basic tools he has developed, and upon all the knowledge of philosophy, history, human growth and development, psychology of learning and motivation, individual differences, and instructional efficiency that scholars have been able to amass.

Modern schools offer a broad, planned program of educational experiences. They seek to provide an educational environment in which these planned experiences take place. Subject matter to be memorized and skills to be mastered are an important part of the curriculum. Through their mastery, many of the other objectives of the schools become possible.

For many years there has been controversy over the content of the curriculum. Some groups would place principal emphasis on subject matter set-out-to-be-learned. Other groups would emphasize activities and projects concerned with the development of attitudes, ideals, insights, and so forth. This was sometimes called the struggle of the subject-matter curriculum versus the child-centered curriculum. It was also called the struggle between authoritarianism and democracy. On the one hand, there was the theory of an authoritarian school regimen where children were given orders and instructions and then failed or eliminated if they failed to measure up. On the other, there was a democratic school organization that was primarily interested in developing in each child a respect for himself and for all men, an ability to work in groups for the welfare of all, skill in self-control and group management, and devotion to the greatest possible freedom consistent with the welfare of others. On the ~~one~~ hand, then, was

a school that was interested in the future vocational and economic productivity of the child, and in his skill as a worker. On the other was a school that was interested in the total welfare of the young learner. It was interested in his happiness, in his mental and physical health, in his attitudes and ideals, in his future behavior as a citizen as well as in his economic welfare.

The arguments sometimes grew to such extremes that they seemed in danger of destroying the schools, but then they would subside again. Today, there is wide acceptance of the idea that children *who are able* must learn to read and write and spell and compute to the extent that their abilities permit. They must learn about the physical and social aspects of the world in which we live. There is wide acceptance, too, of the necessity to teach respect for the rights of one's fellow men everywhere, to develop the ability to solve problems, and to instill the habit of examining all sides of controversial questions. There is recognition of the need for high ideals and generous attitudes, as well as for memorized fact and perfected skill.

Despite all these seeming agreements and growing acceptances, the most pervasive differences that exist today in curriculum theory are those that center around the subject-centered curriculum versus the child-centered curriculum, between authoritarianism and democracy, between selective education for a few with special talents, and education for all according to their abilities, between rigid discipline and a maximum of self-government. In actual school situations, these theoretical differences can be exaggerated beyond reason.

The differences are most happily resolved in what is called the developmental activity curriculum. The developmental activity curriculum is so named because it is based on the biological, social, intellectual, and emotional development of the child as he grows toward well-rounded maturity. It depends for its organization upon the various stages of development through which the young learner passes, and upon the great variety of individual and trait differences that become apparent in the process. It depends upon meeting the changing needs, stimulating the changing interests, and helping to solve the changing problems to be faced by the young people as they move from childhood to maturity.

Essentially, the developmental-activity unit tries to adjust the learner to his learning experiences in terms of his stage of biological development and of his past social, emotional, and intellectual experiences. The developmental-activity curriculum puts into practice the idea that children try to learn more when scholarship is approved and *admired by all the children*. Activities are provided where the talented and gifted children—and the less able too—make contributions to group activities that are welcomed and valued by the whole class.

No matter how they are phrased, most of them may be summarized under headings that are an outgrowth of the scientific effort to determine textbook and course-of-study content. There are seven chief criteria:

Frequency of use. Those knowledges, skills, attitudes, and abilities most useful in *adult* life are to be given primary emphasis. The *time* (developmental level) at which they should be taught can be determined on the basis of the individual child's ability to learn the knowledge, skills, abilities, and so forth, required in various stages of his development. Since 1920, much research has been done on determining such things as which words are most frequently used, or most often misspelled. The pioneers in the field of determining basic reading vocabulary were E. L. Thorndike, Irving Lorge, and Ernest Horn. G. M. Wilson undertook a similar study in the field of arithmetic. Textbooks are the fruit of this extensive, sound research.

Quality. Knowledge, skills, attitudes, and abilities that are useful to people "of status and quality" in our culture should be given more emphasis than those common to people lower in the socio-economic scale. This measure is necessary if the criterion of frequency is not to lead us to absurdity. For example, suppose that a school were in the process of deciding upon a marking system. Employing the criterion of frequency, the principal might send out a questionnaire to comparable schools and ask the faculties of those schools to indicate the type of marking system used *there*. If one type of marking system proved more popular than the other, if it received a majority of votes, that one would be accepted. But such a decision would be foolish and illogical. Before any conclusions are arrived at, one should know the basis for the choices made in the other systems. The verdict of a school or faculty that had done research into the part of a marking system plays in the total instructional program would be of greater value than a choice not buttressed by such data.

This means that all selection should be guided by research rather than by popularity. Of course, many problems immediately become apparent. It is difficult to reconcile the criterion of quality with a child's readiness to learn. For example, in reading it is essential that children begin at the level, and with the vocabulary, they can understand. Even within the range of the most limited vocabulary, however, there is some "quality" literature; and each year there is an increase in the production of good, simply-written children's literature.

Cruciality. The knowledge, skills, attitudes, and abilities that are useful in crucial situations should be emphasized *even though their frequency of use is low*. Artificial respiration is one that comes to mind immediately. It is taught because it is crucial when needed, not because it is frequently used. You do not purchase life insurance very often, but it is most important that you buy the right policy for your needs. There is, of course,

3. What, if any, basic social institutions are ignored or slighted in the outline of the social heritage of man? What is included that might be dropped?
4. Does human welfare mean something to you that it does not apparently mean to the authors?
5. Do the objectives follow logically from the philosophy outlined by the authors, including the various outlines? Would you add other objectives? Would you drop any? Which?
6. Would you favor a type of curriculum other than the developmental-activity curriculum favored by the authors?
7. Do you believe the authors are right in recommending an approximate one-half day for activities and units and one-half day for specific practice in essential learning? If not, what would you recommend?
8. What do you think of the outline of the broad basis of the modern curriculum? Is it too broad in presentation? Is it not broad enough?
9. Are the criteria for content old-fashioned? Are they useful in selecting what should be included in a modern curriculum? Which of these criteria seem most useful?
10. What do you think of the developmental-activity curriculum? Is the name too difficult? Would "experience curriculum" serve in its place?

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not as much difference in the scores as one might think. It was quite disconcerting to see how ineffective the instruction in spelling really was. Rice's findings and those of other investigators are the basis even today for the general principle that the teaching of spelling for a period of 15 minutes daily, if done efficiently, is sufficient.

It is only fair to point out that the modern teaching of spelling is much different from the formal instruction of Rice's day. His study is mentioned here only as an illustration of diminishing returns.

Difficulty. Valuable knowledge, skills, attitudes, and abilities that are so difficult that they would not be learned outside of school should be given emphasis in school.

Educational shortages. Necessary knowledge, skills, attitudes, and abilities that are found lacking in the general population should be emphasized in the school. The other criteria would help decide which of these learnings, abilities, attitudes, and skills were to be valued.

This concern with criteria may strike many as being old-fashioned. It is. However, the old-fashioned is not necessarily useless. Old-fashioned or not, research into the usefulness of materials is important. It is true that many of the early inquiries were overly "mechanistic," and it is dangerous to classify a list of "minimum essentials" with the idea of cramming them down the throats of students. Unhappily, that is the manner in which these sound criteria have been abused. This mistake has done as much as anything else to give rise to the criticisms of elementary schools. When we speak of the abuse of the criteria for selecting material, one of the abuses we have in mind is the belief that students should have no part in this selection. They should, of course.

These criteria have grown out of the attempt by Herbert Spencer, in 1859, to determine what knowledge was of the most worth. He asked his question because he was disturbed by what impressed him as the careless, thoughtless manner in which subject matter and courses drifted into and out of use. He looked for criteria for determining the essentials. His desire is related to our criteria; his results are not, for they evolved from a consideration of adult activities and were not based on research. The seven criteria given here are based on research and are capable of being tempered (and must always be tempered) by a consideration of the child's stage of development.

• Discussion Questions

1. Should the curriculum be defined in a more limited and specific way than the authors do? Try your hand at such a definition or defend the one used here.
2. Can you think of any human characteristics that are missed or slighted in the outline? Would you wish to write the authors about any oversights?

Various aspects of community life gain added meaning when they are experienced firsthand. Lesson units which deal with the problems of transportation, manufacturing, or business often are made more significant to the child through the field trip. This child is taking his turn in the cab of a railroad engine.

It has been found profitable to organize many learning activities around units of work. These units vary a great deal from one another. Some are relatively short while others may continue for weeks or even months. Some types of units are best adapted to one special subject or group of subjects. Some cut across subject lines and bring together work done in various subject areas. Some are "subject-matter" units and some are "activity" or "experience" units, while some are combinations. It is helpful in understanding the structure and use of units, to differentiate between subject-matter units and experience units.

Some curriculum outlines seem to have as their sole or main purpose an emphasis on the mastery of fundamental processes in arithmetic and language usage and on the memorization of facts about spelling, geography, history, health, number combinations, and so forth. These are often called subject-matter outlines. When the work of a class is being planned from such an outline, the units into which the work is divided can be described as subject-matter units. On the other hand, developmental-activity curriculums are generally implemented by what we call experience units when we observe them in the classrooms, and "resource units" when they are prepared in written form for teachers' use.

Subject-matter units. Exclusive reliance on subject-matter outlines is no longer widely defended among school people. The idea of organizing subject matter into units came about primarily as the result of early experimentation into the nature of human learning. When educators discovered that unrelated facts were hard to remember and that isolated skills were hard to retain, they began to emphasize "relatedness." They retained the stress on facts and skills, but they substituted, to some extent, a *psychological* for a *logical* organization of the things to be learned. The resultant changes were a great improvement over some of the early purely logical approaches. In some cases, textbooks and courses of study were quite thoroughly revised in an attempt to organize subject-matter outlines into unit outlines. As the change came about it was rather common, for example, to see textbooks in



in Chapters 21 and 22, that children rely upon the teacher's judgment when a real teacher-pupil rapport is established.

When we define an experience unit as being placed in "the functional framework of the developing child in his social and physical environment," we mean it to embrace the whole field of developmental psychology as the child grows and matures from infancy. The definition also includes his physical surroundings—the climate, soil, water, air, and other factors—that have such great impact on living, the society of which the child is a part and the various socio-economic classes to which the child may belong and to which he may owe his loyalties and his patterns of action.

To insure that this is to be done "in terms of the needs and purposes of the child and of his society," we return again to the nature of the learner, to his basic needs, as outlined in Chapter 11, and to the society that needs mentally and physically healthy and effective individuals to insure its growth and development.

We conclude our definition with a phrase that returns us to the sociological setting in which our schools exist and draw their meaning and purpose. We organize experience units (and curriculums and schools in general) "to the end that the democratically determined purposes of the schools may be achieved." In America, we believe that the public schools belong to the people. It is the citizens of our country, in the final analysis, who determine the purposes for which public education exists and the means that shall be used to achieve those purposes.

Subject-matter versus experience units. Subject-matter units spring from the conceptions underlying the subject-matter curriculums, experience units from the conceptions underlying the developmental-activity curriculums. In actual practice, good teachers of subject-matter units have always included many of the characteristics of experience units.

There is no doubt that many teachers follow well-developed "official" courses of study organized into logically compact subject-matter areas. Such courses are often well implemented with supplies and equipment, including provision for activities and experiences and for wide reference on various ability levels. Though this falls short of the ideal, it is better than trying to develop "experience units" *without* understanding how it should be done and *without* some of the basic materials and supplies at hand. However, as teachers gain insight into the nature of young humans in their environment, and as they gain power in the use of techniques of instruction, the use of broad experience units will increase further. There is nothing to be gained by claiming to be a teacher of "experience units" unless this really means something in terms of the way the teacher understands children and the way he teaches.

elementary history organized around subject-matter units in such areas as "Discovery and Exploration," "Colonization," "The Period of the Revolution," "Westward Expansion," "The Old South," and so forth.

Subject-matter units are of various kinds. During the days when they were more popular and when they represented a pioneer departure from what had gone before, they were sometimes characterized as falling into four types: (1) topical units, (2) generalization units, (3) survey units, and (4) problem units. In a topical unit the subject matter concerned itself with a theme such as the French and Indian Wars or the fishing industry in New England. A generalization unit pointed up various conclusions such as, "Where the forests are destroyed, floods sweep the lower drainage basins," or, more narrow in scope, "To pluralize words ending in 'y,' change the 'y' to 'i' and add 'es'." A survey unit covered a subject such as the cultural resources or the recreational resources of a community. Problem units dealt with such subjects as, "Why did slavery flourish in the South more than in the North?" or "How did the rivers of North America help the explorers and the settlers?"

Experience units. By definition, an experience unit is much broader than a subject-matter unit. The definition of experience units grows out of the background that has been presented in this book regarding the nature of the child, of his society, and of his physical environment. *An experience unit is a cluster of educative experiences, organized through pupil-teacher planning, placed within the functioning framework of the developing child in his social and physical environment in terms of the needs and purposes of the child and his society, and utilizing, to as great a degree as possible, the useful resources to be found in the material and cultural environment, to the end that the democratically determined purposes of the schools may be achieved.*

The phrase "cluster of educative experiences" stresses that the unit hangs together because of the psychological relationships that exist in the various learning activities involved in it. This follows from principles that seem to be revealed by the study of the psychology of learning, and of the psychobiological nature of man.

The phrase "organized by pupil-teacher planning" places emphasis on the great range in individual and trait differences. When pupils participate in planning the details of a unit, it becomes increasingly possible to undertake educational tasks in terms of the children's abilities, needs, interests, and motives. The development of a child's ability to participate in group enterprises, both as leader and as follower, is more easily emphasized. The term "pupil-teacher planning" does not belittle at all the paramount influence of the teacher in planning. The fact is, and this is shown clearly

teachers may gain assistance in selecting units and activities and giving them direction.

CHOOSING ACTIVITIES FOR UNITS

Let us see what occurred as a capable teacher went through the process of selecting an activity. In a free discussion period, two of the children had confessed that they did not like their "language" lesson, especially oral language. "Nobody don't talk that way, anyway," the little boy had said, and the little girl had added, "Teachers, they do."

At this point, many teachers would have stopped the discussion, fearful, perhaps, that further references to themselves either as people or as a profession might injure their status before the class. The teacher in question showed interest in the discussion and thus encouraged it to continue.

"Nobody wants to talk like a teacher."

"Mrs. Baker does. She ain't a teacher."

"Yeah, she yells all-a-time 'bout her old flowers."

Then a third voice joined in, "Teachers *have* to talk that way."

"What do some of the rest of you think?" the teacher asked.

This conversation was a fortuitous circumstance. They happen frequently. Teachers can hear only a few of them, but if sufficiently alert, they can hear enough to "season the potpourri" of each day's learning. As *the children contributed various reactions of their own to their study of language*, the teacher listened carefully to see how to use the discussion to answer the question that had been raised. The question, though it had not been so stated, was whether or not the study of correct usage was worth while. She thought she might direct the thinking of the children if she identified some of their generalizations more clearly for them. She wrote a few on the blackboard, pronouncing the words carefully as she wrote them.

- (1) Nobody uses school language, anyway.
- (2) Teachers have to talk that way.
- (3) Boys don't talk the way girls do. (Suggested by, "It's all right for girls.")
- (4) Negroes don't talk the way white people do.
- (5) School language is used in books.

After this had gone on for some time, the teacher had a decision to make. Did the interest of the children and the importance of the subject (they are bound together and cannot be separated in the real situation) merit broad emphasis on the question or not? Were they as interested in this question as they were in others? If the teacher decided to try to make major use of the new idea, she might have suggested that the children remember the statements on the board and ask their parents that evening *what they thought about them*.

Resource units. A good resource unit is well-developed and extensive in scope. It can be centered around one or more of many interesting ideas and generalizations. The main qualifications of a topic for a resource unit are that it be in line with the real interests of at least some of the children for whom it is designed, and that it be concerned with ideas and generalizations that are important in terms of the broad aspects of human welfare. The typical resource unit states its purpose and objectives and suggests ways in which its use may be initiated, developed, and evaluated.

A resource unit should reveal to the teacher various ways in which he can take advantage of the principles of motivation and learning. The teacher should encourage integration of subjects so that the substance of education is not falsely pictured as a mere collection of geographical, historical, and physical facts.

The experience unit, to return to it for a moment, is the actual classroom procedure planned by the teacher and pupils who draw upon the background presented in the resource unit. There should be no compulsion in the classroom to attempt to duplicate or exhaust the material in the resource unit. In fact, many resource units are so voluminous as to make this impossible. The experience unit, as it develops, draws upon the suggested materials and procedures in the resource unit in terms of the interests and abilities that the children display.

Written resource units appear in a variety of forms. Most of them have a title that gives or suggests the general area or theme to be developed in the unit and most of them contain lists of general or specific aims and objectives or expected results. Many of them point out the knowledge and skills that are to be developed as the unit unfolds itself. Many of them describe ways to start the unit, carry it on, and terminate it by a "culminating" program or by written or oral reports. Some few suggest evaluation techniques, by which to assess the success of the unit. Increasingly, written resource units are coming to contain long lists of materials, films, plays, places to visit, things to build, books to read, pamphlets to secure, letters to write, and other activities to conduct.

Resource units frequently are written for teachers by curriculum supervisors and consultants, but increasingly they are being prepared by committees of teachers who are freed from their regular responsibilities to prepare them. Often they are prepared in curriculum workshops. In any case, they almost always include much more material than can be covered by any one class or one teacher. Frequently some of the suggestions do not fit certain communities. A resource unit is designed to suggest a wide range of activities, materials, teaching techniques, themes, motivational and interest-arousing situations, significant facts, and valuable skills from which

and her flowers to use later, if possible, not as something to preach about, but as a subject for study and thought. A week later at a garden party where flowers were sold to help provide a camp for crippled children, the teacher found herself saying to Mrs. Baker, "From something I overheard, I guessed that perhaps some of our children have been into your flowers. The children are anxious to understand about flowers and to be good citizens. I wondered if sometime we couldn't plan some little" The teacher understood the necessity for stimulating the community's interest in the schools.

(3) The teacher taught reading as she wrote on the board, using simple words wherever she could. The children paid attention and read back what was written as they carried on the discussion.

(4) The teacher showed her pupils how to "generalize" and to test generalizations, an early lesson in scientific thinking, although she did not identify it for them just then.

(5) Without preaching, scolding, or embarrassing anyone, the teacher showed her pupils that there is a place for many kinds of language usage, and that the standard for usage in the school has merit.

(6) The teacher made no great fuss about being progressive or modern in all this. The situation arose; she saw its possibilities. She did not (as some critics say the modern teacher does) ask the children, "Now, children, do you want to study language any more or do you just want to talk any old way?" That is foolish and no sensible person would try such a thing except perhaps as an experiment. Instead, she directed the children's interest and attention to some of the significant features that were inherent in their problem.

(7) The teacher did not approach the children with a "package" to sell. She did not decide in advance to interest them in this or that. The interest was there; she discovered it and capitalized upon it briefly.

It is interesting to speculate about what would have happened had the teacher tried to let interest in "school language" develop into a long unit. The story so far is a real incident. The teacher in question said later that if a similar situation arose again, she would be tempted to let the children go much further. "Think of how much they could learn by bringing examples of their own baby vocabularies to school—baby words that persisted in family use through childhood or longer. Think of the insights into word meanings that they would gain. Then they could identify family words and words that reveal national or regional origin, and thus learn a lot about intercultural life. Think of the books to read, the letters to write, the people to interview, the parental and community participation to call upon, the writing and spelling and language skills to learn, the outlining to do. Think of the range of difficulty of the items that would come up. There

The next day, after the parental suggestions had been studied, the teacher might have had the pupils interview the principal, the nurse, the local playground supervisor, the Sunday school teacher, their physician, the corner grocer, and others. Undoubtedly the children would have had many ideas themselves. They might have suggested studying how their various comic-strip characters talk. Because this teacher listened a great deal to the conversations of the children, she knew who their heroes were and what their budding interests and hobbies were, and could have led a discussion of the language used by the children's "heroes" or the style of the books dealing with their interests and hobbies. Consequently, she was able to slant her teaching in the direction of their interests, thus avoiding the temptation to resort to nerve-wracking driving, endless talking, and scolding. The old-fashioned third-grade teacher across the hall thought she let the children waste too much time chattering.

In this case, the teacher decided not to make an expanded topic of the incident. The children were already busy on numerous units and activities. Instead, she asked, "How many know what baby talk is?" After this subject was discussed, the pupils discussed other kinds of talk. Again using the blackboard, they finally came up with the following list.

- | | |
|---------------|-----------------|
| (1) Baby talk | (4) School talk |
| (2) Home talk | (5) Work talk |
| (3) Play talk | (6) Office talk |

After some discussion, they decided that many kinds of talk have their place and that school talk is very important. The conclusions were not hard to work out. The skill comes in sensing that an incident or a remark springs from real need and real interest.

This short incident illustrates many of the vital elements of good procedure. Let us see what the important ones are.

(1) The children felt free enough to discuss "teachers" in the presence of the teacher. She *never* went back to the original statements of the little boy and girl who started the discussion nor did she force them to "admit" that "people do talk that way, not only teachers." To have done so, even at the very end, would have been tragic for the children in their embarrassment would have seen to it that she overheard no more of their real thoughts.

(2) The teacher noticed the reference to Mrs. Baker and her "old" flowers. Here was a real interest. Mrs. Baker lived in a corner lot across from the school and perhaps in their play the children had trampled Mrs. Baker's garden and had been reprimanded by the lady. Did the children feel a little guilt or only childish resentment? Was this an area where some early steps could be taken to build some of the ethical concepts related to property, trespass, and beauty? The teacher made a note of Mrs. Baker

• Topics Which May Be Used in the Development of Units

1. Family

a. Members

b. Responsibility of members

- (1) Father earns money for food, shelter, clothing, and pleasure
- (2) Mother cares for the family
- (3) Children have home duties and care for pets
- (4) *Interdependence for pleasure*
- (5) Family helpers
 - (a) Laundry man
 - (b) Grocery man
 - (c) Garbage man
 - (d) Postman
 - (e) Vegetable man
 - (f) Milkman
 - (g) Baker

2. Home

a. Surroundings

- (1) Trees—orchards
- (2) Lawns
- (3) Gardens
 - (a) Flower
 - (b) Vegetable

b. Types of houses

- (1) Duplex
- (2) Apartment
- (3) Bungalow
- (4) Two-story house

c. Builders

- (1) Architects
- (2) Carpenters
- (3) Plumbers
- (4) Electricians
- (5) Painters
- (6) Plasterers

d. Materials

- (1) Lumber
- (2) Brick
- (3) Stucco
- (4) Shingles
- (5) Stones

e. Rooms—uses and furnishings

f. Houses provide shelter for man and for animals

3. Communication

a. Telephone

b. Newspaper

would be something for children of every level of ability to do successfully and profitably. Think of the opportunities for dramatizing, for culminating activities that parents might attend. I'm almost sorry I didn't carry it on. But there are always so many more things popping up than we can possibly do." She sighed, "It's like the extra helping at a tasty meal. You have to refuse ultimately."

In textbooks today, there are hundreds of illustrations of curriculums *in progress*. The sad fact, however, is that *few of them* reveal the dynamics of what makes things function in the good classroom. For example, how does an activity get started? How is it kept going? Typical of the printed illustrations are opening statements such as the following:

"The class was to have a store. Plans for operating it got under way at once," or "The group decided that they would appoint a committee to interview the Mayor." These may be adequate for the teacher who is experienced in just how stores come into the picture in the first place and how the plans for such things get under way. For most teachers, however, this opening begs the whole question. The reasons for these inept openings are hard to assess. Actually, the descriptions should reveal the day-to-day development of such things as pupil-teacher planning, determining the day's schedule of activities, daily and long-term planning, caring for individual differences, deciding on which unit to choose, directing the interests of children into constructive channels, and evaluating what a good unit is. It becomes clear then that it takes skill and sensitivity to go into a classroom and start many of the units that are described in the literature.

Some actual day-to-day examples of how teachers start work on an experience unit, motivate and initiate variegated units, and carry them through are given in Chapters 21, 22, and 23.

Choosing topics for use in units. Let us examine a list of topics that are suggestive of things in which children are interested and that, when studied, contribute to the commonly accepted objectives of education.

Unit Instruction in the elementary schools is often organized around social studies and natural science content. Reading, thinking, speaking, writing, computing, and other skills must be developed effectively, and the content through which they evolve must have meaning and purpose to the children. Likewise, social skills and attitudes, appreciations, ideals, values, loyalties, and the like, cannot be developed in any real sense except in relation to meaningful and purposeful content.

In this type of curriculum organization, a frame of reference is set up with many centers of interest around which units may be organized. A great variety of topics is available from which to select those that are suitable. The outline of topics given below is a modification of one by Nannilee Saunders of Eastern Illinois State University.

9. Protection
 - a. Fireman
 - b. Policeman
 - c. State Highway Patrol
 - d. Health organization
 - e. Doctor
 - f. Nurse
 - g. Dentist
 - h. Armed Forces
10. Transportation as it applies to the community
 - a. Boats (ocean, streams, canals, sailing, steam)
 - b. Wagons, buggies, stage coach
 - c. Trains
 - d. Street cars
 - e. Busses
 - f. Automobiles
 - g. Trucks
 - h. Airplanes
11. Building
 - a. Architect
 - b. Carpenter
 - c. Bricklayer
 - d. Painter
 - e. Plumber
 - f. Electrician
 - g. Engineer
12. Other workers
 - a. Minister
 - b. Teacher
 - c. Lawyer
 - d. Social worker
 - e. Librarian
 - f. Surveyor
13. Primitive people (food gatherers)
 - a. Cave man
 - b. Tree dwellers
 - c. Eskimos (cold climate)
 - d. Jungle dwellers (hot climate)
 - e. Nomads (desert type)
 - f. Indians
14. Modern people
 - a. Scandinavians and Swiss (cold climate, mountainous)
 - b. Japanese (isolated, island group)
 - c. Dutch (damp lowland)
 - d. German village
 - e. English village
15. Examples of racial types
 - a. Equatorial Africans as examples of Negroid
 - b. Japanese or Chinese as examples of Mongoloid
 - c. American Indian as an example of Mongoloid

- c. Radio
- d. Television
- e. Moving picture
- f. Telegraph
- g. Postal Service
- h. Cable
- 4. Transportation as it applies to the home
 - a. Automobile
 - b. Horse
 - c. Airplane
 - d. Ships
 - e. Truck
 - f. Street cars
 - g. Trains
 - h. Bicycles
 - i. Busses
- 5. School
 - a. City schools and rural schools
 - (1) Transportation
 - (2) Environment
 - (3) Buildings
 - (4) Uses
 - (5) Organization
 - (6) Personnel
- 6. Neighborhood
 - a. Types of buildings
 - b. Transportation facilities
 - c. Workers and their work
- 7. Farm
 - a. Use of buildings for animals
 - b. Source of food supply
 - c. Care of animals
 - d. Use of machinery
 - e. Farm workers and their tasks
 - f. Communication
 - g. Transportation
- 8. Production
 - a. Food production
 - (1) Grocer
 - (2) Baker
 - (3) Farmer
 - (4) Dairyman
 - b. Clothes production
 - (1) Tailor
 - (2) Factory worker
 - (3) Cobbler
 - c. Building, iron, steel, wood
 - d. Power
 - e. Toolmaking
 - f. Buying and selling, money and credit

- (3) How the type of region determined their way of living
- (4) How people of the same region have learned better use of the land and resources today
- b. The South (New Orleans, Birmingham, Houston)
- c. The West (Santa Fe, San Francisco, Seattle)
- 23. Life in Medieval Europe
 - a. In the town
 - b. Among the craftsmen
 - c. On the farm
 - d. In the monastery
- 24. Life in areas of modern Europe whose social significance and international activities warrant consideration as centers about which pupils may build up geographic concepts
 - a. The British Isles
 - b. Scandinavia
 - c. The Mediterranean Lands
 - d. The industrial areas of western Europe with emphasis based upon the significance of the location of the natural resources of the continent
- 25. The coming of modern medicine and sanitation
 - a. Conditions in the Middle Ages and those in modern Europe contrasted according to:
 - (1) Size of town
 - (2) Water supply
 - (3) Sewage disposal
 - (4) Medical care
 - b. Factors contributing to the changes
 - (1) Scientific discoveries
 - (2) Changes in governmental organization

More topics are suggested here than can be developed adequately during the entire period of elementary-school instruction, but this allows for wide freedom of choice by pupils and teachers at each grade level. An important factor in choosing an area of the outline for use in unit development at any grade level is the adequacy of the reading materials that are available to pupils and teachers. Equally important are the laboratories, shops, other school equipment, and the resources of the community. Most of the textbook materials (readers, arithmetic, language, science, geography, history, social studies, health) that have been developed in recent years are written on the assumption that the subject-matter content of the elementary-school curriculum will center in the areas covered by this outline.

Criteria for evaluating a unit. The child becomes educated through individual and group activities. In the modern school with its experience units, pupils are doing, making, and learning things. Thoroughness and proficiency in all this, whether in academic pursuits or in the arts and crafts, is one of the leading objectives of the modern school. But what a person can *do* is more important than what a person *knows*. The value of developmental activities has been demonstrated. Our concern does not stop when some

- d. Pacific Islanders as marginal types—Micronesians, Melanesians, Polynesians
- e. Dutch as an example of Caucasians
- 16 National cultural patterns
 - a. American
 - b. Dutch
 - c. Japanese
- 17 Lowland types
 - a. Holland
 - b. Jungle
- 18 Mountain types
 - a. Switzerland
 - b. Norway
- 19 Holidays in other lands
- 20 Contrasts between what the explorers found and what the modern tourist sees in any one of the following:
 - a. Mexico
 - (1) How the early explorers conquered Mexico
 - (2) The advanced civilization they found
 - (3) How they changed the civilization
 - (a) A nation largely of a handicraft culture
 - (b) The "Land of Eternal Spring"
 - (c) A region of wide range of climate and products
 - (d) A region of wide cultural contrasts
 - b. Florida
 - c. California
 - d. Brazil
 - e. Argentina
- 21. Contrasts of colonial and modern life along the Atlantic seaboard
 - a. Colonial life
 - (1) Why the colonists came
 - (2) What they brought
 - (3) What they learned from the Indians
 - (4) How their environment affected their:
 - (a) Food
 - (b) Clothing
 - (c) Shelter
 - (d) Amusements
 - (e) Agriculture
 - (f) Industries
 - b. Modern life
 - (1) How people along the Atlantic seaboard today adapt themselves to their environment
 - (2) The rise of industrial marketing, processing, and transportation centers (New York, Boston, Philadelphia)
Buildings, iron, steel, toolmaking, buying and selling, money and credit, Industrial Revolution, interdependence
- 22. Contrasts of pioneer and modern life in
 - a. The great Central Plains (Pittsburgh, Detroit, Chicago, St. Louis)
 - (1) Why the pioneers moved westward
 - (2) How they traveled

d. Attitudes

- (1) Cooperation
- (2) Appreciation
- (3) High standards of workmanship
- (4) Persistent application
- (5) Thoroughness
- (6) Leading or following as the case warrants
- (7) Inquiry
- (8) Tolerance
- (9) Resourcefulness
- (10) Open-mindedness

2. A good unit should provide real purposes for the development of the skill subjects.

A good unit should facilitate learning of the skill subjects by associating mastery of these subjects—reading, speech, writing, art, manual arts, arithmetic—with the student's aims and purposes. When children feel the need for learning certain facts or acquiring certain abilities, learning becomes much more effective and rapid. (Important skills not developed adequately within units should be taught and maintained without reference to the units.)

3. A good unit should lead into many subject-matter fields. This means, essentially, that the materials for studying the unit should not be limited by subject-matter lines and that the pupils should follow into whatever fields the search for information naturally leads them. *The criterion, then, for selecting any item of subject matter should not be its subject field, but rather a felt need for that item as a contributing factor to the understanding of the unit.*

4. A good unit should be compatible with the child's understanding, vocabulary, interests, and abilities in order to insure its successful accomplishment. It should deal with the child's environment, and the materials used and experiences elicited should provide sufficient range to care for individual needs. The range of types of material should include the fictional, the informational, the graphic, and the visual.

5. A good unit should provide a wide balance and variety of activities—dramatic, constructive, creative, research, experimental, and exploratory.

6. A good unit should familiarize the group with the processes of selecting, planning, carrying out, and evaluating an experiment. A unit should provide opportunities for selecting the work that is of interest to the children and on their level of understanding so that they may be able to think independently and have a widening conception of their place in the group and society at large. In planning and carrying out the work, there should be continuous growth and satisfaction from many activities in the various fields in which the unit is developed. Opportunity must be provided for children to evaluate the work they have done.

bit of knowledge has been learned but continues until the knowledge is used well. One of the common weaknesses in the use of units has been, and still is, that teachers have failed to make a critical, unbiased evaluation of the results. *An activity unit should be directed toward definite goals in child growth and development and carry with it a high standard of educational achievement.* Such units should be constantly evaluated so that they may be further improved.

Because there must be this careful weighing of values, there must be some criteria by which the teacher and the pupils may judge a unit while they are planning it and as they proceed with it. Careful weighing of their plan is most important, but of almost equal importance is the check of actual gain in knowledge, skills, attitudes, and habits that must be made constantly as the unit progresses, as it passes into some other interest, or as it closes. For all this, the same standards may be used. These criteria listed below stand for *some of* the definite objectives or goals of a unit. They overlap one another to some extent, but they will serve their purpose despite their lack of mutual exclusiveness.

• Criteria for Evaluating a Unit

1. A good unit should be broad enough to provide various types of learning to meet all the needs, interests, and abilities of children.

a. Knowledge

- (1) Of interest and value to the pupil at the period of his life in which he engages in the study
- (2) On topics of fundamental significance to successful living

b. Skills

- (1) In using various sources of information: books, pictures, maps, excursions, experiences, people, current literature, and so forth
- (2) In expressing information gained in a variety of ways:
 - (a) Dramatization
 - (b) Oral and written reports
 - (c) Pageants
 - (d) Costuming individuals or puppets
 - (e) Selecting and using tools and media of expression
 - (f) Drawing
 - (g) Construction
 - (h) Music
 - (i) Interviews
 - (j) Parliamentary procedure
- (3) In planning and evaluating work

c. Habits

Many of the desirable learning outcomes should become so well established ultimately as to be largely automatic in use. Each unit should make its contribution to this habituation of response.

2. Examine the definition of an experience unit. Try to write an equally explicit definition of a subject-matter unit. Why do you think the authors were not as explicit in defining a subject-matter unit as in defining an experience unit?
3. Is there danger in the freedom recommended by the authors for teachers in the use of resource units? How would you avoid such dangers?
4. Who should prepare resource units? Why?
5. Discuss the knowledge and skills needed by teachers in selecting activities to pursue in experience units.
6. What do you think of the outline of topics for use in units? Is it too mechanical? Is it a crutch? Will its use serve to give teachers self-confidence?
7. Are there other good criteria for evaluating a unit besides those mentioned in this chapter? Do these criteria neglect the basic skills? How? Do they neglect attitudes and problem-solving ability? Would you suggest any changes in emphasis?
8. What is your reaction to the story of the teacher who had the lesson on the different kinds of language? Did she see the problem clearly? Would this problem be different in communities with different socio-economic levels?

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7. A good unit of work should stimulate the children to acquire further information concerning the topic at hand and other related topics. The interests of the children should carry the activity from one phase to another. There should be small units within the large unit that the children can pursue and investigate. Natural relationships should be established between topics that will stimulate definite interests in other later study or major unit of work. There should be much evidence of growth on the part of those participating, both teacher and pupil.

8. There should be an abundance of reading material dealing with the subject matter of the unit. This should have a range of difficulty commensurate with the reading abilities of the pupils participating in the unit. The material should be in book or pamphlet form and have an adequate table of contents and index. The units above the second grade should involve the use of basic reference tools such as encyclopedias, library card files, and the like.

9. An important objective in every unit should be to develop the essential meanings underlying the facts. The subject matter must not remain as isolated facts. Instead, these facts serve as cases from which the pupils are able to draw their conclusions. These conclusions are, of course, temporary. More facts (greater knowledge) may direct thinking to other conclusions, also tentative. These tentative conclusions are merely intermediate goals. In every case, however, the facts are being assimilated so that the essential meaning involved is being developed. Information from many situations serves to substantiate conclusions or basic ideas already partly formed.

10. Throughout the unit, emphasis should be placed on problem-solving. Emphasis should be placed not only on the applicability of a special method made up of a series of steps used to solve the special problems of a particular unit, but on the general procedures followed in an approach to the solution of any new problem.

11. Any unit should take into account the conditions affecting the various children involved in the unit. In addition to a child's understanding, interests, and attitudes, this includes various factors contributory to them, and to the whole personality of the child—his culture, socio-economic background, nationality, color and religion, mental and physical health, place of residence, acceptance by his group, and past fortunate and unfortunate experiences.

• Discussion Questions

1. Try to relate subject-matter units to the subject-matter curriculums, and experience units to developmental-activity curriculums.

Fascinated by the magic of the printed word! Reading is the key that unlocks the recorded thoughts, feelings, and knowledge of mankind. It introduces children to fiction, science, history, morality, and mathematics. The importance of reading as the basis of learning has been emphasized since the beginning of education.

A knowledge of reading is essential to all later learning in other fields. The ability to read contributes to personal growth and development and to satisfactory living. It makes it possible for the citizen to be aware of social conditions and alert to his responsibilities as a citizen. It is a valuable vocational tool. One of the greatest motives that children have in their reading is the desire to succeed in school.

Before making reference to the special problems involved in teaching the reading skills themselves, it is desirable to relate reading instruction to some of the materials we have already covered.

READING YIELDS MEANINGS FROM PRINTED SYMBOLS

In general, we can define reading in terms of what reading does for us. It is a skill by the use of which a person can analyze the printed page in such a way as to translate combinations of printed symbols into words and meanings. This skill is learned best when the child is motivated—when one of his goals is to learn to read. It is done best when the pleasures, satisfactions, and rewards he gets from reading far outweigh the efforts he must put forth to learn. In reading printed words, the symbols are made up of letters, words, sentences, paragraphs, a wide variety of punctuation marks, and many printer's refinements. The printed symbols take the place of spoken words which in turn stand for thoughts, feelings and emotions, and things. Thus, when a child sees a dog, he sees a certain kind of living animal. When he learns to call that animal a dog, he has substituted a word symbol for the animal. Later when he learns to read, he associates the three-letter printed word "dog" with the sound of the spoken word "dog" which symbolizes the animal. Thus, a printed visual word is, in a sense, a written substitute for a verbal symbol. To an adult this may seem like an unnecessarily complicated explanation, but it illustrates some of the difficulties faced by children learning to read. On a more complicated level, the same thing is true in learning to read sentences.

READING



THE IMPORTANCE OF

• Reading is Basic to All Education

Reading has been considered basic almost since schools began. Nila Banton Smith traces the history of reading instruction from the dawn of history when pictographs and ideograms were used and when alphabets slowly began to develop. In man's early history, writing was scant and scholars were few. It was when Christianity made reading important that the skill began to flourish. In the ninth century, the importance of memorizing the catechism and certain prayers so impressed the faithful that schools were set up to teach reading to those who were to instruct the young. The religious manuals were the first "readers," but they proved so difficult that teachers began to develop ABC books which were used as aids in learning to read. In colonial America, children were expected to read almost directly from Scripture, with some help from alphabet study and the catechism. The period of religious emphasis in America lasted to 1776, giving way to a period of nationalistic and moralistic influence. The history and literature of the young country became important, as did articulation, pronunciation, and enunciation. School books began to be printed in America. Readers by Noah Webster and by others began to appear shortly after the Revolutionary War. (Webster's somewhat primitive American Spelling Book is said to have sold 24 million copies!) In these books, long lists of syllables or sounds were read so that children might learn similarities and differences between the sounds of various letters and letter combinations.

This era of reading instruction was followed by one in which prevailed a new insistence on the importance of meanings. This period lasted about forty years (1840-1880). Graded schools were first evolving. At first, grading was regarded as a way to divide children according to *age and attainment*. Many new reading materials were produced and used, particularly graded readers which began to appear between 1840 and 1860. In the new materials, much of the moral influence was retained, but science, history, art, economics, and civics also became increasingly important. During this period there was an increase in the use of phonetics and the method of presentation was to proceed from the simple to the complex.

William S. Gray² gave us, in 1948, some interesting viewpoints on the teaching of reading in the last century. In and about 1890, there was much emphasis on two methods—the "word" method and the "phonic" method. Primary attention was given to the pronunciation and recognition of words. The "word" method emphasized the learning of words as wholes and

² William S. Gray, *On Their Own in Reading*. New York: Scott Foresman & Company, 1948.

Reading is one of the most difficult skills that people are called upon to master. It involves not only calling out the names of words and reading sentences with proper expression, but also the ability to comprehend the thoughts that are expressed, and to translate the printed words into spoken words. It includes numerous contributory skills such as the ability to use an index, a dictionary, and a table of contents. A good reader knows how to read for entertainment or for information. He knows how to skim in order to gain general impressions and how to read in order to remember the details of the material that is being studied.

• Reading Skill is a Variable Thing

Children approach reading with a wide range of attitudes. These differences are as pervasive as the culture itself. Thus, some children come from homes where there is much reading, where reading is the source of many delightful experiences and where fine books and magazines are found in profusion. These children will have different attitudes toward learning to read than will children from unlettered homes where books have been mysterious sources of embarrassment and confusion, identified with "other" classes of people. Children whose early introduction to books has been associated with seeing pretty pictures and hearing interesting stories may react differently than children whose early bookish experiences have been confused by parental expectations that are too high, and by scolding and impatience from listening to teachers and fellow pupils. In some families, each member accepts without question the importance of reading for its own sake, for the sake of prestige and respectability, and as a *sine qua non* for success. In other families, reading is based on a mysterious syntax that is somehow the monopoly of a "better" or more fortunate class of people. For them, love of reading characterizes people who are different, offensively superior, powerful, or perhaps lacking in the things that characterize practical people in work-a-day situations.

Children approach reading with wide differences in ability. There are differences between children in sheer mental ability, as well as differences in the degree of development of various traits. There are differences in the sorts of experience children have had with language as a means of communication. There are differences in mental age and reading age, and there are physical differences in visual acuity, eye movements, and auditory discrimination. Other physical differences are reflected by wide ranges in the ability to expend energy, to attend school regularly, and to resist infection and diseases.¹

¹ Irving H. Anderson and Walter F. Dearborn, *The Psychology of Teaching Reading*. New York: The Ronald Press Company, 1952.

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¹ Irving H. Anderson and Walter F. Dearborn, *The Psychology of Teaching Reading*. New York: The Ronald Press Company, 1952.

chanics of reading, including word recognition and oral reading, to the emphasis on silent reading from 1910 to 1920. Along with silent reading came emphasis upon comprehension and speed, motivated by interest and purpose or need.

After 1930, vocabulary control was introduced. The number of words in readers was limited, and the number of new words per page was controlled. The number of repetitions of each word per book or story was also carefully checked.⁴ Growing out of this movement, there came the trend after 1940 toward word perception, and this became increasingly implemented by the judicious use of word-attack skills, of which phonics is one. Supplemental techniques such as tracing and writing also began to be introduced. After 1940, there was more effort to attain comprehension and skill by means of reflection on the ideas presented.

Various ways to teach and learn to read have been developed. The "look-and-say" method depends on associating whole printed words with the sounds that words have. On the other hand, the silent or sight method tries to convey meanings without sound through the use of pictures, symbols, context clues, and so forth. Both of these methods have limitations. The "look-and-say" method often neglects meanings while the silent sight method has to struggle with the problem of portraying action words and attitudes without using sounds. The problem can be resolved by saying that both methods (the oral and the silent) should be used, but the teacher needs to know a great deal about how children learn to read in order to use either with success.

Actually, it is possible to name a great variety of methods by which reading is "taught." There are the alphabet, phonic, word, phrase, sentence, and story methods. The first two are mainly oral and too much dependence upon them alone may result in reading without meaning. However, they are among the essential word attack skills. The word method is excellent in building an early basic sight vocabulary and providing to children the actual thrill of reading. It runs the danger, however, of yielding only a limited reading vocabulary, of slowing down the rate of reading, and of allowing and sometimes encouraging inaccuracy. The phrase method compounds the shortcomings of the word method when used with beginners, but it is often productive when used with good readers to promote greater eye span and speed. The sentence and story methods are best used when instruction is designed to develop readers who think about and question what the author has said.

The elementary teacher needs special courses in reading. Today, reading instruction is also based on much new research although it draws upon many older practices. Tinker stresses the tremendous amount of research

⁴ John C. Kearney, "An Analysis of the Vocabulary of First Grade Reading," *Journal of Educational Research*, 43:481-493, March, 1950.

depended upon a wide experience with many words to build skills in meeting new words. The "phonic" method taught the sounds of letters and combinations of letters and then analyzed words in order to identify them. Some authors of readers actually believed that it was better to learn words by an analytical method even if the child was quick enough to learn by the word method. The phonic method, it was said, eliminated guessing and dependence upon pictures and other clues, and led to skill in pronunciation which in turn revealed meaning.

In both of these methods, there was little if any emphasis on sentence meaning and paragraphing. In the phonic method, short sentences were used to present the words that sounded alike or that had similar phonetic elements. In the word method, short sentences were also used to repeat over and over again words such as "large" and "small," "boys" and "girls," and "come" and "go." In a few readers at the turn of the century, diacritical marks were used to help pupils pronounce words. In some of these books, the authors "dared," with the aid of diacritical marks, to use wide vocabularies in an effort to achieve greater continuity of content. The use of diacritical marks in the reading material of the textbooks was questioned by many experts and, after 1912, the practice was largely discontinued on the theory that words learned with diacritical marks would have to be relearned later in an unadorned state. In the light of what we know today about learning, this seems to have been a valid argument.

After 1915, there was a pronounced shift away from the word and the phonic methods, and they were replaced to some extent by the "story" method. Teachers read stories (Mother Goose stories were often used) while the children followed the words in the book as best they could. In some books, the story as told by the teacher was a more complete version than the one in the children's readers. In any case, the children dramatized the story, discussed it, or otherwise learned the meanings of the words used, after which they drilled on the words and phrases. This method was an outgrowth of the recognition that learning is most efficient when the materials are meaningful and that children like to find the meaning and the plot in what they read or study.

Some of the reading books, new at that time, included the use of phonics or word analysis, but they also increased greatly the number of different words they used. However, the movement was away from phonics and Gray tells us that by 1920 there were some who revolted not only against teaching through phonics but even through emphasis on the recognition of individual words. Despite a variety of theories, there was continued emphasis on word recognition and perception.

Tinker³ tells us about the shift in emphasis, about 1900, from the me-

³ Miles A. Tinker, *Teaching Elementary Reading*. New York: Appleton-Century-Crofts, Inc., 1952.

that has been published regarding reading. A few generalizations in this chapter about reading instruction will serve to indicate how much is involved in teaching children to read. Children, as they first learn to read, should be concerned almost entirely with words they themselves use in their own speech. These will be familiar enough in sound and purpose to give meaning and carry-over to the reading skills. Whenever possible, words should first be learned as wholes; these are often called "sight" words. After a store of sight words is mastered, children may begin the processes of sounding out their pronunciation as a means of approaching the pronunciation of new words and of determining their meanings. Too, children must try to discover the meanings of new words from their context. Otherwise, they risk many difficulties with all the meanings that inhere in common, simple words. Context takes advantage of the continuity of thought in the material being read. Context is made up of pictures, diagrams, maps, and the many planned activities that children have had as introduction to a particular reading lesson. The more advanced the reading, the more esoteric becomes the dependence on contextual clues. For example, in very advanced reading, the scholar who consults an unabridged dictionary must often decide on the appropriate meaning of a word in terms of a most highly advanced and specialized context.

Analysis of known words may provide a point of attack for coming to grips with new words. It is necessary that analytical skills be well developed. These involve habitual determination of singular and plural forms, simple past and present verb forms, prefixes, suffixes, and other inflected forms. Various simple generalizations or rules can be derived by the children and the teacher. Some of these rules will involve various forms of words as determined by their final letters (i.e., change the *f* to *v* and add *es*) and by the other letters with which they are joined.

Teachers of primary reading should be well informed about all aspects of reading instruction. For example, they should know about eye movements in reading. They should have some ability to spot children who are having difficulty in the use of their eyes in the most efficient manner. Teachers who know about such things can help students to develop fully their reading ability. It seems, however, that some children (even very bright children) have peculiar individual patterns for their eye movements and that drills and mechanical pacing machines are not always effective in changing these.

Reading instruction has been carefully outlined and widely discussed. The more or less formal aspects of reading instruction are usually begun during the first or second year in school, depending generally on whether

known about individual differences. When children do begin to read, they learn and they improve by *reading*. This means that they must be encouraged to read what they are able to read, so they can prepare for the next steps

Reading readiness is a topic of much concern to the parents and teachers of young children. Chronological age is often used when reference is made to the ability to begin to learn to read. Actually, it is perfectly normal for children to differ in the age at which they begin to read. This same thing would be true of the age at which they begin to learn to speak.

Many factors must be considered when a decision is made about the readiness of a child to undertake the job of learning to read. Reading readiness is a matter of definition. First, the decision must be made concerning the level of reading or the kind of reading for which the child may be considered ready. Almost any five-year-old child is ready to read something. Perhaps it is only a "stop-and-go" sign with green and red lights as aids to comprehension. Perhaps it's the meaning of the red paint on a can for gasoline. Perhaps it is one or two simple, familiar words such as "me" and "cat." In reality when we say that children are or are not ready to read, we mean that they are not ready to learn to read as quickly or efficiently or ably as we think they should in order to justify the instructional effort that must be made for them.

When children are not "ready" to read, one of two types of administrative arrangements is generally made. In the first instance, the children may be taught to read on a less sophisticated basis until they are indeed "ready" in the more advanced sense of that word. In the second instance, those judged to be not ready may be withdrawn from the regular classes and placed in "readiness" classes or in what are sometimes unfortunately called "remedial" classes. This second procedure frequently has the effect of deferring entrance to or delaying progress through the elementary school and results in some degree of over-ageness. It is frequently justified as bringing about more homogeneity among first-grade reading classes, but it is doubtful that this result is really achieved. The study of individual differences in reading abilities might not sustain such a belief.

Many different stratagems are used with children who are not "ready" to read, but failure to pass or demotion is seldom sufficiently effective to be widely used, though it may be effective in isolated cases of immaturity where, for example, a child by his own admission and after a careful case study is found to be happier with a younger group.

Many children who are not "ready" to read at the age of six are of normal intelligence in other ways. Sometimes children far above the norm in general intellectual capacity have difficulty in learning to read. This is often difficult to understand, much less explain. The fact remains that it is true,

answers to questions that come up. They should develop the ability to grasp the general significance of a paragraph and to predict the results of given events. These abilities require imagination and originality, and practice will assist them to develop these powers even though there will be large variations between children. With practice and guidance, they will gain in their ability to relate, infer, imagine, and predict. Matter-of-fact reading for the simple purpose of getting facts from the printed page is easily over-emphasized while under-emphasis may be given to thoughtful, imaginative reading in which the reader's interpretation is more important than the material *per se*.

During the reading lesson, the teacher should ask questions that require the children to make inferences, to be critical, to test the logic of what is said, to think in terms of a sequence of ideas or events, to make summary statements of what a paragraph is about, to give the author's purpose or the author's point of view and to suggest additional material that the author may not have included. The goal should be to have the pupil learn to think more effectively about what he reads, to follow precise written directions, to note details, and to use the skills required for comprehension. The pupil in this situation will, of course, be reading materials for which he is "ready."

Oral reading requires special attention. After children learn to pronounce the sounds of the English language, oral reading becomes more and more an exercise in using a pleasant voice and good diction to convey an author's thoughts to others with expression, feeling, and understanding. Properly planned and executed, it becomes, at the same time, an exercise in listening and it results in better listening skills. Oral reading makes use of a wide variety of written material including poetry, newspapers, and radio and television scripts.

should never be isolated, but rather should be used as children need it to pronounce new words with which they are not familiar. Others believe that the common sounds of the letters and their combinations can be taught and that with this background children can sound out new words for themselves when they encounter them. To some extent, these are matters that differ from child to child. However, there are a few general hints about the teaching of phonics that may prove of value.

1. The teacher should be consistent in the sounds assigned to the various letters.
2. The teacher should illustrate the sound of a letter by showing it in two or three or more familiar words.
3. Children should not be asked to learn phonic analysis until they can use it to read materials when phonics will be of help to them.
4. The simple phonic elements should be stressed first, particularly those initial consonants which have only one sound.
5. It may be necessary to teach children to "hear and distinguish" the separate sounds that go to make up words before any instruction is undertaken in phonics.
6. Children should understand that there are many exceptions to the rules.
7. Children should learn that there are other and sometimes more desirable ways to read words than by sounding them out. The "best" way to read a word or a sentence is the one that works best for a particular child.
8. Children who have difficulty pronouncing new words can often find clues to their meaning by looking for little words inside the big ones. They must know, however, that this does not always work, as with words *often* and *nothing*.
9. Syllabication can be taught as an outgrowth of phonics. Syllabication provides a method by which words can be studied through an analysis of their parts. Some children will learn the simple rules of syllabication rather easily. For example, many children can learn quite early that every syllable must have at least one vowel sound, or that a consonant between two vowels goes with the second syllable.

Content is subsidiary to skill and power in beginning reading. The primary reading program is designed to develop skill and power. Much of the content was selected so that, in reading it, children would be introduced to many of the skills they need. This does not mean that the content itself is not frequently valuable. It is desirable that it, too, make a contribution to the child's development. But valuable or not, it is selected primarily because of its suitability for elementary instruction in how to read. The emphasis changes somewhat as reading in the fourth and following grades is examined.

In the upper grades, more and more reading is done that involves the searching of reference materials in various areas in which unit activities are being pursued. In this reading, pupils will often be seeking specific

profitable to have children write a brief paragraph summarizing the important material in a whole article or chapter.

• Methods and Materials

The wise teacher selects and uses various methods. They should be selected as they fit the situations that develop in the classroom among the different children. An early beginning is made with readiness activities and these must be continued throughout reading instruction. Experience charts are used as a means of relating actual reading to the sorts of things the children find in their real life. Grouping is used to give more children an opportunity to participate in constructive learning activities and to improve the effectiveness of those activities. Controlled vocabularies, well-illustrated reading materials, many charts and flash cards, and a wide range of audio-visual aids are useful. The use of tests, both teacher-made and commercially available, is advisable upon occasion. A wide variety of word attack skills are to be used as they seem profitable.

There are some differences of opinion concerning the best way to build the ability to read for meaning. It is clear that suitable materials must be selected and these must be available in abundance. Certainly, elementary schools should have libraries with resources that far exceed those of the typical elementary school library today, and in addition, there should be rather extensive classroom libraries. Children must also be given some opportunity during school time to build an initial competence and disposition to use reading resources. Thorough mastery of a few basic readers of limited vocabulary, important as that is, is far from enough.

Children know the meanings of many more spoken words than we sometimes think. Those with large vocabularies become capable of reading widely and competently as they learn to recognize and pronounce the printed words. Some of these words, however, are spelled in unusual forms and cannot be readily pronounced by simple phonic attack. A further difficulty arises for children who come from homes where poor English is habitually spoken, where there is great use of local idiom, or where most of the communication is in another language. All of this increases still more the wide ranges of individual differences in the classroom. In addition to differences in basic ability, in acuity of the senses, in general experiences, in health and energy, and in the emotions and attitudes with which children approach their school work, there is this big range in familiarity with the kind of English usage that permeates our written language.

Teachers must remember when introducing children to written language that it is, at its best, a different and more stilted form of communication

good usage, also. It gives valuable practice in actual reading and has carry-over value in contributing to facility with work-type reading.

Reading should be mastered so that it can be used for hard work. One function of reading instruction in the elementary school is to teach children to read carefully and thoroughly for the mastery of general content or for specific data that throw light on problems, topics, or questions that are of current concern to the reader. Children learn how to read fiction, history, social studies, mathematical materials, newspapers, magazines, maps, charts, graphs, indexes, outlines, summaries, footnotes, and so forth. For most children, this type of reading increases greatly as they progress through the grades. Middle-grade children are given help with the kinds of reading they must do in their school work and in their recreational reading. There is the reading of reference books, newspapers, magazines, and data about geography, health, mathematics, government, economics, safety, etiquette, and many other subjects. This kind of reading demands four types of skill:

1. Skill in locating pertinent materials
2. Skill in evaluating the pertinence and reliability of the materials found
3. Skill in relating the new materials to the reader's purposes
4. Skill in making a final synthesis of the new and the previously known materials.

To do this type of serious reading, the reader must learn many subsidiary or supporting skills and habits.

1. Skill in the use of the index and table of contents of a book
2. Skill in the use of libraries, large and small
3. Acquaintance with a great variety of reference books, including encyclopedias of all kinds
4. Skill in skimming material in a preliminary fashion
5. Habits of looking up unknown words that seem essential or contributory to the information being sought
6. Habits of looking for the opinions of more than one "authority" where questions are controversial.

Learning to read factual materials for content-mastery cannot be achieved in any one grade. Although much of the skill necessary for this type of reading must be developed as children use materials directly related to their "subjects," there is need for a direct and systematic introduction to the essential skills. To study and remember the content of printed materials, it is necessary to be able to determine the subject of each paragraph, usually by finding the topic sentence. It is necessary to relate the topics of *various paragraphs to each other, and to come out with the author's argument or presentation—his outline.* It is sometimes wise to have the children make an outline of a particularly good paragraph. It is sometimes

than the same language in its spoken form. This is partly a cultural inheritance but, cultural or not, it is also largely unavoidable. Written language must communicate without the aid of many crutches that aid the spoken word—voice inflections, pauses, gestures, facial expressions, posture, pantomime, variations in speed, and many evidences of personality. Written language becomes all the more difficult to the child who can't understand the grammar, and who habitually uses slang or colloquialisms in place of many of the common written words. Fortunately, many of the factors are or should be decreasing as radio and television provide more of a common experience in language usage for our people. (Some programs, of course, tend to confuse rather than improve this outcome.)

The teacher who would help children to a wide reading experience must take these factors into account. It will be difficult to provide suitable recreational reading (or other reading material for that matter) unless books and magazines are available in wide variety in subject matter, vocabulary, and intrinsic difficulty.

TEACHERS' MANUALS ARE IMPORTANT

To insure a proper sequence in the development of skills in reading, the teacher in general should pay close attention to the manuals that accompany the readers. The use of teachers' manuals as a resource cannot be overemphasized. In many schools, instruction in reading suffers because teachers fail to see the purpose of the various types of materials in the readers. For example, a selection designed to develop the ability to organize material might be used inappropriately as oral reading material. Of course, there may be instances in which the author of a set of readers (or other textbook, for that matter) lacks certain understandings and neglects certain aims. There may be instances when his material is not completely suitable to a given grade or class at a certain time. In general, however, the manuals indicate how the material may be used to advantage in various situations, and the recommendations and suggestions should be carefully considered. The typical author and publisher invests a great deal of time and money in the preparation of the manuals.

WORKBOOKS SOMETIMES HAVE A PLACE IN THE READING PROGRAM

Their importance, however, is subject to many qualifications. Some excellent workbooks are being developed and this excellence is largely responsible for the degree to which they are being used in our schools. Some of the good ones are designed to stress and establish basic and, for most children, relatively simple reading skills that are necessary for almost everyone. Others are being produced for use with children who have special

ation in hundreds of classrooms. It is doubtful that it will be brought about by self-appointed critics inside or outside the educational profession.

CONCLUSION

Reading is part of the twin process of reading and writing by which what is written is translated into written symbols which convey meanings that have been gained from the experience of the writer, and what is read is translated back into words and sentences that have meaning in terms of the experience of the reader. At first, the printed words stand for spoken words. Finally, the reader may learn to translate the printed words into meanings without first changing them to spoken words. Reading development is a multilateral and multilevel process, and it is difficult to classify a reader by the stages he goes through. Progress is continuous, but not necessarily even. Comprehension of the printed page is the ultimate goal of instruction in reading. There are different types of reading, depending on the reader's purpose, and each has its separate skills. There are different problems that are faced in learning to read. These problems vary from child to child. The objectives of reading programs have been frequently and carefully stated. Our knowledge of how children learn to read is increasing. The teacher who undertakes to teach reading has need of thorough professional preparation and must make plans to keep abreast of the new developments, both in materials that are produced and in the methods that are used in the classroom.

• Discussion Questions

1. Make a list of common symbols that have meanings for all of us, such as red flags, green lights, etc. How is the use of these similar to the use of the printed word?
2. Do you favor having young children read the "comics" from the standpoint of learning to read? Why?
3. Could you learn to pronounce words correctly from the written English page without understanding what you are "reading"?
4. Some people say that children should not be admitted to first grade until they are ready to learn to read. What do you think? Can you ever get homogeneous grouping?
5. Why is it important for children to have an adequate vocabulary before they start to learn to read?
6. What does reading readiness mean to you? What does it mean to you to say that readiness is almost always a matter of degree?
7. What do we mean by saying that matter-of-fact reading is often over-emphasized, while thoughtful, imaginative reading is neglected? How would

you encourage the latter kind of reading? (Do you think that all elementary teachers should have special courses in how to teach reading?)

8. What skills are necessary if reading is to be used as an aid in rigorous study? Can this kind of reading be taught in a single unit? Why?
9. What method do you recommend for teaching reading? Should it be used exclusively?
10. Contrast written and spoken English.

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THE LANGUAGE

The "language arts" include spelling, speaking, writing, literature, and foreign languages, as well as reading. Difficulties in the language arts sometimes arise from lack of skill in auditory discrimination. Children should be given opportunities to develop the skill of careful, attentive listening.

The language arts program of an elementary school is now usually regarded as a curriculum area rather than a collection of individual subjects made up of related topics. In some schools, the language arts program is known as the program in communication arts and skills. Regardless of name, it is made up, variously, of reading, handwriting, spelling, listening, speaking, literary appreciation, grammar, written expression, and library skills. At many points reading instruction is inseparably linked with the other language arts.

The language arts are important because they are basic to group life. Men must speak and write, and they must listen and read. They give and they receive. The more advanced, broadened, and complicated our group life becomes, the more important it becomes that language skills be highly developed so that oral and written speech may be used clearly, critically, creatively, efficiently, and enjoyably.

Against the background of the varying needs and abilities of the children in each class, teachers must try to create a rich environment in which to learn the communication skills, and they must try to teach these skills systematically. Dora V. Smith (see footnote 1 on following page) has suggested that children in the United States need competence with the language processes of democracy when they leave school. They need to read newspapers, hear radio, and see television, and they need to make decisions about the honesty, validity, and authority of what they read and hear.

• Listening Comes First

The very young child does not understand any spoken word until he has listened to it and associated it with something in his environment. He does not speak except as he imitates that to which he has listened. Listening is not a casual, thoughtless process. Both children and adults hear many things without listening to them. Common examples are the familiar but unattended whistling of a passing train,

the traffic noises beneath an apartment window, or the voices of parents when children are immersed in a good book (or in radio, phonograph or television). One can listen to many things that go on in the environment which are ordinarily not heard. Likewise one can learn to listen more effectively to things which one has reason for knowing. Listening is a skill that can be learned and improved with practice. The skilled mechanic hears many things in a purring motor that the less skilled listener would miss. We see, thus, that learning to listen is related to learning what there is to hear.

No matter how poorly a child rates in comparison to his fellows, the fact remains that, with few exceptions, he hears much more language than he reads, and he learns much, besides, from hearing things that do not classify as language (the whine of a jet plane, the sound of the wind in the pines, the murmur of distant sounds). Listening with understanding is preliminary to speaking with clarity.

The occasions when children learn by listening are very frequent. Children listen carefully to the instructions given them by their parents. They listen to their teachers and others. They listen to adult conversations. They listen for voice inflections when mothers love them or scold them. They listen to a variety of programs on television and radio. They listen to stories that are read to them or told to them. They use the telephone, play games, recite, read poetry and stories aloud, review books, and carry on conversations. They attend plays and variety shows, learn the lyrics of many songs, and they develop poise and personality in casual conversation.

As children become more skilled at listening, they learn about a great variety of subjects and they learn more rapidly. Teachers try in many ways to teach children to listen skillfully.

1. They try to provide the children with a purpose for listening. The listener learns to listen best to what people say when he is actively interested in what is being said.
2. They try to provide classroom situations in which many will talk and many will listen.
3. They try to provide comfortable and healthful conditions for listening (and for other types of learning). There should be comfortable seating, desks of proper height and slant, good lighting, proper temperature control when possible, and freedom from disconcerting interruptions.
4. They try to make listening enjoyable by wise selection of materials, and by setting realistic expectations about how much children should retain.
5. They try to provide the satisfaction of two-way communication.
6. They keep in mind that listening is background for speaking, writing, and reading.

¹ Robert H. Beck (editor), *The Three R's Plus*. Minneapolis: University of Minnesota Press, 1956, p. 133.

7. They try to develop lessons which lead children to listen for various sounds and to reproduce them as they have heard them. This habit is of great help later in reading and spelling and in learning new languages.
8. They try to have children help one another by showing consideration for each other's contributions and by approving each other's offers to help. They play down the old idea of limited communication, cheating, etc., and encourage clear communication.

Listening experiences should be planned. Teachers provide children with a wide range of listening experiences. Children in the upper grades will listen to adult-level speeches and panels on radio and television. They will use tape recorders to record, study, and improve their own diction and voice quality. They will try for the beauty of poetry by reading it aloud to groups of their peers. They will listen, too, to good music, to a wide variety of assembly programs, to instructions and directions about the performance of difficult tasks, to a great variety of recorded speech, and to unusual forms of speech such as those used in drama, poetry, opera, etc. Children will participate in dramatizations at their own level, some of which will be informal with some chance for role playing. They will organize into clubs of various sorts. There may be experiences with ventriloquism, with puppet shows, and real or make-believe broadcasting. Oral and written reports will be made. There will be much interesting but informal conversation about school subjects. There will be music to listen to. In the lower grades, these same things will be done on a less sophisticated level. Children will listen for various sounds on recordings; they will listen to and repeat correct speech patterns; they will make noises that are identified with the animals in Mother Goose; they will pick out and illustrate the kinds of sounds or syllables that seem to indicate the endings and beginnings of words; they will listen to and tell stories; they will sing songs; and they will describe pictures and scenes that have impressed them. They will begin to study and to enjoy the thoughts of others and thus learn to listen as they search for new ideas. Very young and very immature children will practice listening to simple sounds and repeating them accurately. Many children have difficulty in reading certain words because they have not heard the words accurately.

Speaking generally follows listening in the developmental sequences. The exceptions are most generally with those whose intelligence is too low to have profited from previous listening, though some children are prevented from speaking by physiological limitations and some by emotional disabilities. It is important that speech be taught, even to those whose mastery of speech will be necessarily limited. Children take pride in becoming good at speaking and at holding the attention of listeners. Teachers must adapt their efforts to the individual needs of the children. Some children

have heard and used good speech since the time they first learned to talk. Their good speech habits have become firmly established, particularly since there has been little to disturb them in their formative period. Other children have to learn many new speech habits involving grammar, vocabulary and familiarity with concepts. They have to learn to hear the correct forms and usages; they must want to learn to use them in speech; they must practice and drill under competent instruction. Some of these children have to learn an almost "new" language before they are able to hear and speak "schoolroom English." Schools try to provide natural situations within which children may hear and say what is correct often enough to make their use habitual.

Children should learn many other speech skills besides grammar and word usage. They should learn to use a well-modulated voice, clear enunciation, suitable speed, and they should exhibit a minimum of "groping" for words. They should receive help in attaining these outcomes in a language arts program in the elementary school that provides opportunities for conversation, discussion, dramatic expression, music, and story telling, besides oral and silent reading.

Conversations and discussions, both formal and informal, give most people their best opportunities to learn and practice good speaking habits (as well as good social habits). When possible, children should be allowed to converse quietly with one another as they work at various tasks in the classroom. Children should dramatize stories which interest them. They should discuss the script for the dramatization as they write it out. They should talk enough to guarantee the unrestricted exchange of ideas and the material development of ideas. As children grow older, they may take turns going out into the community to interview people who may know something special about the projects being studied. In large numbers, children may go on excursions. Sometimes visitors will come to school to be interviewed. Such occasions provide opportunities for children to do much speaking, and motivate them to communicate clearly and forcibly.

• Written Expression

After children learn to listen, speak, and read, they frequently find occasion to communicate in writing. Historically, of course, someone had to write before there was any man-made script for others to read. However, in life today, people usually learn to read before they attempt written expression. Written communication is resorted to when oral expression is inadequate for one reason or another, and for certain purposes it has some advantages over oral speech. It is more permanent. It can be put aside and

picked up again later. It can be sent over distances. It can be studied carefully. It can be stored in cabinets or libraries. It can be polished and perfected before being released. It can be released on a mass basis if that is desired, but its circulation can also be carefully controlled upon occasion.

It has some disadvantages over oral speech. It takes more time to write than it does to speak and it has a tendency to become outdated soon. Things that have been written are more permanent and less easily "stricken from the record" than are spoken words. On the adult level, written words often have legal implications and uses that are not so common for unwritten speech. In written expression, meanings must depend on media limited to words, word arrangements, grammar, and a few hints from punctuation marks, while oral speech gains assistance from variations in inflection, speech, accent, gesture, facial expression, personality, dress, grace, ease, and a host of other observable cues.

In teaching children to express themselves, the teacher must build upon the information and ideas that each child has. Before one writes, he must have something to say; he must know what it is that he has to say, he must want to say it, and he must learn how to say it. Children learn to write when they have something they wish to say in written form. In general, written speech seeks to do one or more of several jobs: (1) inform, (2) explain, (3) convince, (4) inquire, (5) record or remember, (6) felicitate, (7) request, (8) inspire, and (9) entertain.

Perhaps the most common form of written communication is letter writing. It is a practical and useful form of writing for children. In the lower grades, children may begin with simple thank-you notes. Sometimes they may dictate rather than write their letters. Some of the letters may be invitations or inquiries. Letters will ask for information and assistance. Children in the early grades will also write captions and titles for pictures, for dramatizations, or for projects about the store or the post office. As some of the children gain skill and power, they will take notes, make summaries, or even write poems and essays. Riddles intrigue small children as well as older children and adults. As children become interested in these forms of written communication, they write sentences, try for the correct use of words and of simple punctuation. They see that these are practical skills whose value is obvious.

All of this continues in the middle grades on a level in keeping with the development of the children. Some of the children will keep diaries. Some will write brief book reviews or evaluations, some will keep records of books read, and some will serve as recorders or secretaries for clubs and committees. As reports are written, there will be opportunities to prepare tables of contents, short stories and poems, legends for pictures, and

descriptions of objects and processes. There will be need to prepare and follow outlines. Letter writing will be done on a more advanced, developed level. Invitations, requests, expressions of appreciation, and interesting, friendly letters will be written with increasing skill. Children will develop skill in selecting interesting things to write about, in writing to catch the early attention of the reader, in leaving out extraneous materials, in selecting expressive words, and in using good grammar and correct punctuation. They will begin to be able to correct their own errors.

Creative abilities will develop still more in the upper grades. Letters will grow more interesting, observations more perceptive, presentations more logical, and grammar and punctuation more nearly perfect. Some of the students will write editorials for the classroom paper or the school newspaper if there is one. Some will prepare radio and television scripts. The poems and short stories of a few of the students may show great imagination and real creative talent. Some children, of course, will have small talent in the use of words, and will show it.

Throughout all levels of the schools, students must be stimulated by intellectual tasks. They must get the inspiration that comes from new experiences, enriched ideas, compelling evidences, and the excitement of the challenging unknown that remains to be explored. On all levels, children must be encouraged to achieve technical perfection in the writing that is involved in daily school work and in normal social living. Children must also be encouraged to write creatively and imaginatively. What they write may be filled, sometimes, with attitudes and emotions and, sometimes, with light fantasy and humor. This type of writing springs from what is within the child. It will often be spontaneous and, in the lower grades, brief. It should always be treated with respect and be given serious consideration as the expression of sincere feelings. It must never be ignored as unworthy of attention, or be made the butt of humorous or sarcastic remarks and, childish and simple though it may be, it must *never* be greeted with laughter. All children are creative to some extent, and if we discover and encourage their creative abilities, we can help them to build a personality—a self. Practice in writing and polishing one's own ideas teaches respect for self and persistence in educational effort.

There was a time when many grammatical rules were taught *before* the child had real use for them in writing things that needed to be written. The rules of sentence structure, paragraphing, and punctuation were taught before children needed to learn them. There was much study of the use of nouns, action words, and pronouns—along with definitions of them. In the upper grades, there was great emphasis on diagramming sentences. Today, authoritative opinion favors the teaching of grammar through instrumental

rather than through formal procedures, for the memorization of rules of grammar is small guarantee that the rules will be used. Grammar must be taught as it is needed in writing themes, reports, letters, and the like, and the language curriculum should be designed to offer many practical experiences in the oral and written application of grammar to communication.

• Spelling

Spelling is a skill. For people who wish to communicate ideas in writing, spelling is a very essential skill. It is a tool subject—a means, not an end. The ability to spell all the usual words automatically is good because it allows the mind to concentrate on the ideas at hand without the distraction of wondering about or looking up spelling. Yet, there has long been a tradition in America that spelling is desirable for its own sake. Dora V. Smith² makes the point that though the spelling bee was good entertainment on the frontier (and is continued today on television, at fairs, and in many schools), it was poor instruction, since the poorest spellers sat down first while the best spellers got all the chances to improve and shine. Miss Smith also makes the point that since spelling is a writing skill, there is little practical point in knowing how to spell any word that one will never use in writing.³ Three kinds of words are ordinarily taught in the elementary school: (1) those most frequently used; (2) those needed currently in the unfolding curriculum; and (3) those needed in the pupils' personal living.

The child should be motivated to spell in much the same manner as he is motivated to learn anything else. He learns best when the words he learns have use and meaning for him. He learns best when he learns with a purpose, so wise teachers encourage him to write things that *require* that he know how to spell. He learns best when he is rested and well, when his vision is good, and when distractions are at a minimum. The child who is motivated to learn to spell can be helped by capable teachers who will help him to find out for himself the best way to learn to spell. The most effective word study techniques are not the same for all children.

Some children learn to spell without much effort or concentration while for others skill in spelling is never adequately developed. This ability, of course, is generally positively correlated with other learning abilities, yet the fact remains that some children (and adults) never become good at

² Robert H. Beck (editor), *The Three R's Plus*. Minneapolis: University of Minnesota Press, 1956, p. 128.

³ *Loc. cit.*

spelling even though they may attain eminence as scholars. Some children learn to spell by means of some sort of visual memory. They call up an image of the word in their memories and copy it. Other children remember how the letters of a word follow and precede one another and repeat the letters in sequence from memory when they wish to spell the word. Other children sound out the word, remember the rules and their exceptions, and arrive at a spelling that is almost always correct. Many good spellers use a combination of all these methods.

Spelling is taught, both instrumentally and formally. There is still much controversy between those who would teach it instrumentally and those who would teach it formally. Instrumental spelling, taught in connection with classroom activities, does not involve a definite word list and a specific number of minutes for its mastery each day or week. The words taught are the new and important ones that arise as the work of the class progresses and as the children's inability to spell them becomes obvious. Since learning to spell, like all learning, is not an atomistic skill, the mastery of the spelling of a large list of words carries with it the power to spell many other words. Those who advocate the instrumental method stress the wide range in individual differences and the inability of spelling experts (or content experts in any other field) to arrange spelling words accurately in grade-placement categories. When a child reaches school age, his average vocabulary has been variously estimated up to as high as 10,000 words or more. A more common estimate is 2,500 words. No doubt radio, television, and more mass communication of all kinds are enlarging children's vocabularies. Whatever the number, the words that children know and use will furnish a good starting place for beginning spelling. Instrumental teaching of spelling takes individual differences into account and provides motivation springing from real purposes. There is no reason to discard drill in this method, it may or may not take place in regularly scheduled periods. As words arise, they are put into lists and learned. (Some good examples of this procedure in actual teaching are illustrated in the chapters in Part Three.)

Some authorities who would subscribe to the instrumental method in theory cannot agree that it will accomplish the desired spelling competence in actual practice. They advocate a modified formal approach that has much to recommend it for teachers who are just gaining experience in the new techniques.

These authorities advocate starting with the words most frequently used in adult and children's writing.⁴ These are sufficient to enable the curric-

⁴ Two good summaries of research in spelling are Thomas George Foran, *The Psychology and Teaching of Spelling* (Washington, D.C.: The Catholic Education Press, 1934) and Ernest Horn, "Spelling," in Walter S. Monroe, ed., *The Encyclopedia of Educational Research*. New York: The Macmillan Company, 1950, pp. 1247-1264.

ulum-maker to select 4,000 or 5,000 words and be reasonably confident of their wide usage. The 4,000 words most frequently used account for approximately 99 per cent of the "running words" that the average adult uses.⁵ In this method the systematic teaching of spelling is continuous through the elementary school. The words taught at each grade level are those words that the children are using at their correct level of thinking and reading, and that they are misspelling. Comprehensive studies of children's usage have been made by McKee,⁶ Fitzgerald,⁷ and Rinsland.⁸ These studies should be consulted by those who determine at which grade level words should be studied and reviewed.

The time devoted to drill in spelling should not be used for increasing the "meaning" vocabulary of children. This is done more pleasantly and effectively through reading, discussion, and the daily experiences of the children with language. The words that the child studies in spelling are those that he uses and needs for writing, but does not yet know how to spell correctly. The principal purpose of a spelling period is to allow the child to learn to spell correctly the words he has learned to read.

Learning to spell a word means learning to write the word legibly in accepted form. Insofar as oral spelling is used, its purpose is to establish associations between written symbols and sounds. In beginning spelling in the primary grades, the child should never be asked to learn to write a word he cannot already read. The child should know the letters in the word he writes, or learn them in the process of learning to write it. For example, in learning to spell *funny* the elements of the following procedure should be present:

(1) The child pronounces the word either aloud or silently. He must know how to pronounce the word correctly.

(2) The child writes *fun* saying to himself the letters *f, u, n* as he writes them; he then pronounces *fun* to himself. Then he writes the letters *n, and y*, saying *n* and *y* to himself as he writes them and pronouncing *ny* as he finishes.

(3) He then pronounces the word *funny* again as he looks at his writing of the word.

In the beginning, the teacher may have to repeat this process with some children time after time with each word until the habit of spelling in terms of syllables and letters is established. The first words learned will, in general, be one-syllable words. After a child has learned to write the word with a model before him, he then practices without the model. As soon as a child has learned to spell enough words to make sentences and to express thoughts, further practice should take the form of contextual and meaningful writing.

The system of having a child write his spelling words in context is good, especially in the first three grades, providing the child is taught how to learn to write the new words, know the letters, and relate the sounds to the letters.

A child can and frequently does learn to write words correctly without knowing the letters; he simply has a visual image of the word. The visual image of a word is important in learning to spell correctly. It is derived when the child learns to read the word. The pupil knows what the word looks like in print, manuscript, or script form when he has learned to read it in these various forms. A pupil should see the word in the form in which he is expected to write it. Good readers are, in general, good spellers; poor readers are poor spellers. Nevertheless, it is unrealistic to expect that all children will develop the habit of spelling by visual imagery alone. The child who needs it should be helped to know the letters he is writing, and to have a feeling for the relationship between the letters and their sounds.

Beginning with the fourth grade in this modified spelling method, the *test study* method of teaching spelling is often followed. This procedure provides for individual differences and enables the pupil to devote his spelling period to the study of words that he misspells. A general outline of this method is as follows:

(1) The words for the week are pronounced by the teacher and written by the pupils on Monday.

(2) On Tuesday each child studies the words he missed on Monday's pre-test. Children who spelled all the words correctly on Monday work at other school tasks.

(3) On Wednesday all pupils are tested again. Sometimes review words, systematically selected, are repeated along with the 20 words for the week.

(4) On Thursday the pupils study the words missed on Wednesday.

(5) On Friday the words pronounced by the teacher and written by the pupils on Wednesday are tested again.

(6) This procedure requires five different testings of each word in the spelling list and each pupil is required to study only those words he has misspelled. Teachers should excuse "good spellers" from the re-tests and allow them to do more rewarding work.

(7) Each pupil keeps in his spelling notebook a list of the words he misses on Friday and also words he has missed in his written work. At regular intervals during the "free study" periods (these are periods during which each child works on his most pressing learning problems) the children are paired off to pronounce to each other the words in this "spelling demon" list.

In order to check on the efficiency with which spelling is taught, and to provide for individual differences, the following procedure is sometimes used. At the beginning of each semester the teacher selects at random fifty words from the spelling list to be taught that semester and administers them to the pupils in the form of a written spelling test, pronouncing each word clearly before the child writes it down. The score of each pupil is recorded as a percentage (multiply the number of words spelled correctly by two). The average score of the class also is recorded. Those pupils who spell more than 90 per cent of the words correctly on this pre-test may be excused from spelling during the semester. The pupils who spell less than 30 per cent of the words correctly continue to study words from the first 1,000 most commonly used words before going to the study of the second thousand, and spend additional time on the second thousand before going to the third thousand. Since the first 1,000 most commonly used words make up 90 per cent of "running words,"* these should be mastered by the poor spellers first, regardless of the grade in which the pupil is found. The average speller can master the list of 4,000 or 5,000, and the superior speller does very well with the 10,000. At the end of each semester, the 50-word test is repeated again and the gain in percentage of correct spellings is recorded for each pupil and for the class as a whole.

No matter how spelling is taught, a pre- and post-test on the words studied each semester gives a useful check on the efficiency of learning. This is especially important when teachers are experimenting with the various methods of teaching spelling. Standardized tests are not effective in measuring achievement over the period of a semester because they test too many words that may not have been taught in class.

HANDWRITING IS ANOTHER TOOL SKILL

It is not important in itself, and its importance is constantly being reduced as modern technical advances provide more and more mechanical means for recording human thought. Before the advent of the printing presses, monks and other scholars spent years copying single copies of the literature of antiquity for their libraries. The printing presses outmoded

* The number of separate words of all kinds, no matter how often repeated, on a page or in a book or newspaper is called the number of running words on that page, or in that book or newspaper.

this use of handwriting. The typewriter, along with the stenographer, has done away with the beautifully handwritten business letter of a bygone day. Engraved and embossed cards of various kinds have replaced the Spencerian invitations and greetings of our grandparents' days. Wire, tape and wax recordings carry many messages formerly carried by the handwritten word. Most large offices now have quick and simple machines that reproduce many copies of any letter or form in a matter of seconds. Even note-taking in college classes is of reduced importance as instructors increasingly resort to the duplication and distribution of outlines and summaries of lectures and readings.

The ideal in handwriting today is *legibility and fluency*. It is important that what is written can be read, and it is important that what is written flow off the end of the pen or pencil with all possible speed and lack of mechanical effort.

Children can learn to write as soon as they are old enough to understand that written symbols may take the place of words. They will be able to make some progress in their writing as soon as they arrive at a point where they have some compelling reasons for wishing to put words on paper. These conditions, combined with a proper degree of physical development, set the limits for *readiness* to write.

When children first begin to write, however, they are faced with the need for concentration, *much* persistence, self-control, and courage. The pencil will fail to go where the writer wants it to go. Little fingers will allow it to wander to the left when the model, which is being intently attended, clearly indicates that it should go to the right. Teachers, in this situation, encourage children to scribble, to draw, and to play games such as those that involve written crosses and zeros. Small children and beginning writers should have blackboard areas and large sheets of white paper upon which to scribble and to draw. The teachers can help at this stage by drawing and writing with simplicity such things as an apple or a heart, inside of which in manuscript writing is written the child's name. The children will learn much about writing from imitating the teacher. Early writing lessons and early teacher demonstrations should be of short duration. As teachers work individually with children, they will learn to check on the child's eyesight, hearing, muscular coordination, attitudes toward school, and many other important aspects of the total personality.

MANUSCRIPT WRITING IS GENERALLY USED FIRST

Most authorities agree that manuscript writing in grades one, two, and possibly three will ultimately become universal practice. Some authorities go so far as to say it will become universal throughout the school years,

but this is less certain. Perhaps research yet to be done, particularly as handwriting involves speed, legibility, and the expenditure of energy, will determine the extent to which manuscript writing will expand. There are differences of opinion about these matters now. One point of agreement, however, seems to be that no very great difficulties are involved in changing from manuscript to cursive writing at about the fourth-grade level. Teachers and educators should remain alert to additional research in these areas and be ready to adjust procedures in terms of the evidence. A main consideration in the adoption of manuscript writing in the lower grades is its legibility, ease of learning, and its assistance in teaching children to read printed material.

Manuscript writing grew popular in England before it became important in America. Between 1913 and 1929, its popularity spread until by the latter date over seven hundred American schools were using it, particularly in grades one and two.¹⁰ Its advocates claim that it is easier to learn, that it contributes to learning to read since the same letter forms are used, that it requires less expenditure of energy, that it is easier and just as rapidly read, and that it can be used later to advantage in labeling, putting titles on articles, and so forth.

Some schools teach handwriting instrumentally. As in all other skill subjects, this is psychologically sound as long as there is practice or drill on the skills involved, whether such drill occurs at regularly scheduled periods or whether it occurs as the needs arise. Certainly the concepts and meanings involved are best learned in relation to the activities that are being furthered by the use of the particular skill. The instrumental method can be used to teach handwriting in the lower grades upon countless occasions when children must make signs, name objects, make labels, copy outlines and rules, write notes, make programs, and so forth.

Teachers must remember, as they begin the teaching of handwriting, that children with different mental abilities, different cultural backgrounds, and different degrees of physical competence will not all learn to write at the same speed or with the same degree of finesse. Some will learn rapidly while some will learn slowly. Some will be slovenly and careless, some will be meticulous and remain dissatisfied. Some will pay little attention to parallel slant or evenness of letters while others will strive for beauty and proportion.

Certainly there should be no formal drill in ovals, strokes, letter repetition, arm movement, and the like. Whenever children write, they may be helped in learning to hold the pencil and pen, in placing the paper, and in assuming the correct posture. This work should be largely individual

¹⁰ Frank N. Freeman, *Survey of Manuscript Writing in the Public Schools*. Columbus, Ohio: Zaner-Bloser Company, 1946.

and should be done gently and with great care. Undue pressure and impatient or unsympathetic attitudes from teacher and parent can do nothing but harm.

Much foolishness has been written and practiced about the use of old-fashioned pens, fountain pens, ball point pens, and so forth. For example, some have insisted that the first use of pen and ink be with old-fashioned pens that must be dipped in the ink well. There seems to be no corresponding advocacy that people first learn to drive Model T Fords with planetary transmissions before they learn to drive modern cars with automatic transmissions. *In the absence of real evidence to the contrary, why not let children use effective tools they enjoy using as soon as they are able to use them at all efficiently?* Perhaps a fountain pen with a rugged point would be very good for a child in the second or third grade. Perhaps, too, there are times in a child's development at which he might be expected to use finger, wrist, or arm movement, or a combination of all three. The fact is that most children, if left alone, start with finger movement, which is natural, since the small muscles are best adapted to precise movements. *It seems sensible to use small muscles for precise and delicate movements.* Outside the traditional teaching of handwriting, we recognize this quite clearly.

Much of the child's writing should be for a definite purpose and be integrated with the unit activities and the social life of the children. Writing that is merely an exercise or an assignment, with no other purpose than to be handed in to the teacher and marked, should be avoided or at least kept to a minimum. For example, letters may be written to a sick school-mate, to a baker thanking him for permitting the class to visit his bakery, to the pupils of the sixth grade thanking them for the use of reference books, to last year's teacher, to a pupil who formerly was in school, to the Home of the Aged offering to present a program, to the people from whom gifts were received, to a class in a school in a neighboring city, to the children of a school in England, and so forth.¹¹

Through discussion and teacher-pupil planning, the criteria of good writing can be made clear to the pupils. What makes a personal letter interesting? What are the things about our school that an English pupil would like to know? What are the essential facts to be included in a letter to General Mills requesting materials on nutrition? Through group thinking and planning in answering such questions, each child may gain insight into the problems and subtleties of effective communication.

¹¹ Maude McBroom, *The Course of Study in Written Composition for the Elementary School*, University of Iowa Monographs in Education, No. 10. Iowa City: College of Education, University of Iowa, 1928.

• Literature

It has often been said that education must provide the cement that holds a society together. It is also said that the culture of a people provides that body of common things in which individuals find their sympathies for one another, their loyalties, their willingness to cooperate, to sacrifice, and to aspire. Certainly, education should play a role in passing on the cultural inheritance that is represented in our rich store of prose and poetry. If appreciation for literature is our aim, our methods of presentation must be carefully considered.

The first requirement when great literature is read is that it be enjoyed. Second, its meaning should be understood to some extent. Children should understand and appreciate the plot and the action. We must curb our desire to get *all* children to place the literature in some sort of meaningful relationship with the life and convictions of the author and of the time in which he lived. It is fair to ask why the thing was written and to discuss the answer, although even scholars are not always able to agree as to what the authors did mean. Third, it should have some impact on the desire to use good reading as a leisure time activity, by stimulating and inspiring the imagination and aspirations of children. Its technical excellence may also be analyzed, bearing in mind that although some understanding of the technical skill of an author increases appreciation of his work, dissection of every word and phrase and every trick in plot leads often to a ruined story and to a dislike of literature as being an example of contrived, weighty, and altogether uninteresting excellence. Children should read literature to be entertained and informed. Only incidentally should they be exposed to the technical aspects of literary production, and then only those children whose talents and motivation will make it a palatable fare.

The typical reading text is too limited to present more than a fragment of a complete program in literature for elementary school children. Children should explore widely among many literary forms. Most good courses of study and resource units provide references that will assist beginning teachers who are looking for suitable reading materials. These can be found in the folk literature and in American folklore. They can be found in modern stories about science and fiction, in stories of the old west, in stories of the adventurers and explorers, and in stories about today's youth at work and at school. They may be found as prose, poetry, or drama. Some are realistic, some are fantasy. Teachers can do much to guide the reading of children if they find out first the kinds of things a specific child likes, and then find him a well-written book that meets his tastes.

and should be done gently and with great care. Undue pressure and impatient or unsympathetic attitudes from teacher and parent can do nothing but harm.

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Through discussion and teacher-pupil planning, the criteria of good writing can be made clear to the pupils. What makes a personal letter interesting? What are the things about our school that an English pupil would like to know? What are the essential facts to be included in a letter to General Mills requesting materials on nutrition? Through group thinking and planning in answering such questions, each child may gain insight into the problems and subtleties of effective communication.

¹¹ Maude McBroom, *The Course of Study in Written Composition for the Elementary School*, University of Iowa Monographs in Education, No. 10, Iowa City: College of Education, University of Iowa, 1928.

people who can read with facility in all foreign tongues. A second argument stresses the widespread feeling that knowledge of a foreign language is a marketable skill, especially if held in addition to some other profession or vocation. A foreign language is the quickest and surest way to gain knowledge of a foreign culture and sympathy for a foreign people. Many language teachers are convinced that their subject has tremendous appeal to young people and to their parents—if administrators, principals, and guidance counselors would encourage its practice. Children in elementary school learn languages with great ease and facility and remember them longer than do older children. They learn the idiom, the rhythm, and the pronunciation more quickly, and identify themselves more completely with those who speak the language they are learning. The study of a foreign language may help with the mastery of English composition and grammar.

Some schools have experimented with courses in general language. Such courses generalize about all languages and draw illustrations from many while they teach a little of three or four languages, probably concentrating on the neighborhood favorite or the teacher's forte. Such courses emphasize the common elements in all languages, and the similarities and differences in words, phrases, idiom, and grammar. These are exploratory courses, and children can be expected to make choices as to the language they wish to pursue at greater length. General language courses provide many opportunities for integration of foreign language instruction with science, history, and literature, particularly when similar words turn up in many languages.

Despite the arguments and the reasons, the spread of foreign language instruction at the elementary school level is slow. There is a great dearth of teachers. It is probably true that foreign languages are being more widely taught in areas of our country where there is a concentration of those who speak another language. This helps to provide teachers (and pupils). In places where there is a strong foreign language emphasis, special teachers of language are often employed, who relieve the regular teachers at intervals. In other schools, language instruction is undertaken by television and radio. There is need for foreign-language textbooks and instructional supplies, particularly in the less commonly taught languages.

Many people are skeptical of the effectiveness of foreign language instruction as preparation for individual world citizenship and for American world leadership. The great number of foreign languages, and the shortage of instructors in languages other than west European, are discouraging factors.

It is too early to say what the future will be for foreign language instruction in elementary education. It may increase in the next few years, particularly in communities where there is high consciousness of the world-

Teachers encourage children to read good books in many ways. Story-telling is very effective for young children, since it introduces them to good stories far beyond their present reading ability embellished by the reading and dramatic skill of the teacher. Reading aloud is also effective, particularly for poetry, where the teacher can make the most of alliteration, onomatopoeia, and rhythm. Choral readings and recordings are also useful. Children may decide to memorize poems that signalize various holidays or that are illustrative of the work of their favorite poets. Closely tied in with appreciation for literature are many exercises in writing in which children write and produce dramatizations of stories, write poems similar to those of a famous author, pantomime plays or poems, or rewrite a story's ending.

The superior child should come out of the elementary school with knowledge of and respect for our great literary heritage. He should have a tendency, partially as a result of his school experience, to search for beauty and for opportunities to enjoy creative self-expression. He should listen for picturesque and expressive words in stories, speech, and drama. He should enjoy poems, drama, biography, and fiction and should form his own judgments of their excellence. He should see and appreciate some degree of subtlety in what he reads.

He should know that spoken and written language has structure and he should have some knowledge of structural style. He recognizes plausibility and originality in literature as opposed to literature that presents stereotypes and impossibilities.

• Foreign Languages

Birkmaier¹² tells us that many school systems are extending foreign language instruction into the elementary grades in order to gain a longer period of time for the language-learning process. Some start language instruction as early as the kindergarten but the majority of those who teach languages in the elementary schools begin instruction at the third- and fourth-grade levels.

Many arguments are advanced for the introduction of foreign languages in the curriculum of the elementary school. The first cluster of arguments is the same as those that have to do with increased emphasis on foreign languages at *all* levels. Every citizen is a potential ambassador, and there is great need for more Americans to learn foreign languages, and to "rub shoulders" with all nations. Furthermore, we must keep abreast of thinking—technical, scientific, and political in foreign lands. We need trained

¹² Robert H. Beck (editor), *The Three R's Plus* Minneapolis: University of Minnesota Press, 1956, p. 208.

7. When you were in school, did you often have to waste time drilling on facts and skills that you had already mastered? What effect, if any, did this have on you?
8. What is the test study method of teaching spelling?
9. Try to name a few other things that children may write besides letters and still avoid writing merely to fulfill an assignment, have the errors identified, and get a mark.
10. Do you believe that foreign languages should be taught in the elementary schools? Why? Which ones? Are they more important or less important than increased emphasis on science and mathematics? On social studies? On reading and writing?

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wide service that Americans may be called upon to render and of the prestige value that facility with languages may yield socially and vocationally. There will be need for more experience and more research, however, before educators will be able to give citizens authoritative advice on all the possibilities. It will be some time, furthermore, before the extent of the demand for such instruction becomes fully known. Particularly, the research concerning the effectiveness and possibilities of television instruction will be of great interest.

American public schools have always been affected by public opinion. The question of foreign language instruction in the elementary schools presents a good current example. There are those who do not favor a broad and extensive program mainly because it seems unwieldy and hard to administer. There are those who believe the whole idea is visionary and will prove ineffective. There are those who consider it too costly of time and money. On the other hand, there are many enthusiasts with arguments that have been given earlier. It will be interesting to see in the next decade or two how strong the demand will become and what steps will be taken.

• Discussion Questions

1. What might be done to help a child who never seems to listen to instructions? Do you think that something mildly punitive should be tried? What could be tried that does not punish, penalize, or embarrass the child?
2. Do you think that children will reach an ultimately higher level in other language skills if they first achieve skill and confidence in oral language? Why do you feel this is true?
3. Are children being short-changed in the traditionally quiet classrooms of our country where conversation is at a minimum? Often the rule is, "Do not speak unless absolutely necessary," instead of "Speak when you wish if you do not unduly disturb others." See how well you could argue both sides of this question.
4. When you were a child, did you every try to write in a secret code? Could you motivate children to understand language symbolism by having them devise codes and then break (as does the FBI) them?
5. Can some of the children who are nine to eleven years of age write short stories about characters and situations in which they are interested? Can they compose fairy stories? Do you think they would develop more skill if they listened or read with this purpose in mind?
6. Write four or five words that you habitually have trouble in spelling. Would any of the methods discussed in the chapter help you overcome your difficulty with them?

In modern elementary schools, the respectful examination of other cultures has assumed increased importance. The study of the customs and folkways of others contributes to a better understanding of our own. Young children often begin with a study of the culture and habits of the American Indian.

• What Are Social Studies?

Social studies in the curriculum of the elementary school have been subject to continuous change. Even today, there is some lack of uniformity and stability, although examination reveals wide agreement on objectives and procedures.

In social studies, the pupil learns something about himself in relation to various customs and cultures of his world. He learns about the problems that face him in adjusting to his role. In brief, he learns about himself in relation to the problems that arise because there are other people. At the same time he learns about the problems faced by society and some of the methods and procedures by which a society may deal with its problems. In modern elementary schools, a great deal of effort goes into planning the work so that pupils can benefit from it at their various levels of ability and growth. Modern elementary schools use social studies as a means of developing social understanding and competence. Social studies comes to grips with many of the problems facing adults in today's interdependent world, particularly in the world that is close to the children in their neighborhoods, schools, and communities.

In general, at all grade levels, social studies seek to develop the ability to be sensitive to situations that face other people, to feel and to assume responsibility, to cooperate, to act on one's own initiative, to master and share knowledge, to profit from social experience, to build the morale and courage of one's companions, to perceive and solve problems.

In today's elementary schools, social studies draw upon history, government, geography, economics, psychology, social psychology, sociology, political science, anthropology, science and the arts. Other resources, less commonly mentioned but nevertheless important are law, statistics, and demography. Good teachers combine materials from these sources and present them in ways that are within the reach of their pupils.

STUDIES

The old conception of the elementary



SOCIAL

HISTORY

One of the first social studies courses, history provides pupils with some perspective as they look at the modern world. It seeks to have them realize that differences of opinion always exist and that these differences are honestly held. History is the story of the development of all aspects of man's life as an individual and in his societies. It is an integral part of any programs in general education. History can help children to understand that things were not always as they are, but that they became what they are, even as they are now becoming what they will be tomorrow.

POLITICAL SCIENCE

Once described as the analysis of political institutions, it is now more broadly conceived. Political science deals with the making of political decisions and the machinery of political action. Barring revolution or mob rule, the laws by which these things are done are explicitly set forth for people. In organized societies, all members of the society are involved in political government whether or not they exercise their vote or otherwise participate in their own government. In the elementary school, the modern effort is to provide children with many opportunities to make a great variety of important decisions so they may get the habit of making decisions, of studying to see which decisions should be made, of assuming responsibility when decisions go awry, and of working to master their role as citizens.

ECONOMICS

As our economy—local, state, national, and international—has broadened with the upsurge of modern productivity, new dependencies have formed. Each bit of progress that has been made in providing man with more of the good things of life has also made him more dependent on his fellows. This has been true regardless of his station in life. Each increase in the services of government has affected the entire population. More productivity increases the earnings of producers, insofar as there are markets for what is produced. There are markets to the extent that producers produce what is needed or wanted at prices that can be met. Sometimes prices can only be met through government subsidies or purchases, or through production-reduction schedules and similar stratagems. A whole series of laws have been passed, in part, to insure that we have an adequate supply of consumers. For example, there are minimum wage laws, unemployment compensation, old age assistance, social security, and other pension laws. In recent years many people have changed their ideas about such things as thrift, pensions, social security, the gold standard, and taxation, most of which are subject to control by government. The government is the people, and it does what segments of the people set out to get it to do.

school as a place where the objectives were limited to knowledge and skill in the three R's gave rise to some confusion regarding social studies. Children learned to read, to write, and to do some simple arithmetic. Facts were memorized to the point of recall, and skills were practiced until mastered. Those who fell too far behind were eliminated. In this conception, children studied and worked, recited and were tested as individuals. Yet there was little understanding of individual differences. All children were expected to learn the same things at the same rate to the same degree of mastery and little place was given to some of the new aspects of instruction in social studies. The whole idea of cooperative social living was foreign to this concentration on individual learning.

How controversial should social studies be in the elementary schools? This raises the question of controversy throughout the social sciences. Teachers of social studies should understand that social scientists are called upon for suggestions when there is a breakdown of current or traditional ways of handling problems. The social scientist is of use as he places his specialized knowledge at our disposal and as he assists in the emergence of new knowledge and insight. Social science must have room for controversy if there is to be the free inquiry that is necessary to the development of new insights and processes. As with all science, it must have the courage to present materials as it finds them. Then comes the further question of the age at which controversial questions may be presented to children. There are many opinions here. Perhaps the commonest one is that children are not harmed by a controversy when they are old enough to understand the issue from both an intellectual and an emotional viewpoint.

• The Contributions of the Various Social Sciences

All of the social sciences have contributed to the curriculum of the elementary school. Much of the early instruction in history, civics, economics and geography in the elementary schools was introduced to foster patriotism and good citizenship although there were other purposes also. For example, there was a need in our early economic life to know the regions of the world, the capitals of the states and nations, the products and the material needs of each country, and so geography very quickly became regarded as a very practical subject with vocational overtones. Similar purposes were behind the introduction of other subjects and units. Many of the subjects that were introduced originally as separate courses more recently have been fused into a broad course. Present social studies in the elementary schools draws upon and introduces children to history, geography, political science, economics, sociology, anthropology, and social psychology.

and so forth Anthropology itself has at least four main divisions: physical anthropology, social anthropology, linguistics, and archeology. Anthropologists sometimes regard themselves as coordinators of the other sciences. Certainly the breadth of anthropology and its service in relating the "sciences of man" to one another make it particularly valuable to teachers of social studies. For example, anthropology, with its belief that every human society is unique, is important to those who wish to teach better human relationships. Also important in the same effort is the anthropologist's success in finding many regularities and similarities between cultures that appear on the surface to be entirely different. These commonalities suggest a basic biological and emotional brotherhood of man.

One of the big difficulties faced by the anthropologist is that of maintaining objectivity in his observations of other cultures. Anthropologists know that they never can be completely objective, since they must always observe and interpret through their own eyes against their own experiences and values. Teachers will understand the problem faced by the anthropologists since they are faced each day with children whose families, cultures, feelings, outlooks, values, and habits differ greatly from theirs. Nobody can observe a culture, his own or another, in a totally uncolored way, and teachers should be aware of this type of unconscious bias, since such self-knowledge gives them added competence in dealing with others.

SOCIAL PSYCHOLOGY

Social psychology is that branch of psychology that is concerned with the individual and with the social-cultural stimuli that affect him. Social psychology differs from sociology in its concentration on the behavior of the *individual* in a social environment. Social psychology shows that individuals often react differently (in fact, perceive differently) in groups than when alone. For many of us, being rejected by a group or not being accepted in the first place is so punishing that, unconsciously, we go to great lengths to avoid it. Social psychology shows us many of the roles that people may play whether they be pupils and teachers at school or citizens out in the community. Children should learn to change their role when that is necessary. An example is shifting from follower to leader and back again, or from being the entertainer to being the entertained.

Social psychology is concerned with leadership, followership, attitudes, prejudices, group standards, education, the class structure, and a host of other socio-psychological aspects that help make up the curriculum background for social studies. In all these areas, it has tried to use an experimental methodology to search out forces and relationships and to avoid unfounded generalizations. The teacher can learn from the social psychologist to approach problems in social studies with caution, to reserve

Intelligent, organized majorities can (within limits and generally) control their government effectively. The people want services, and they face the necessity of paying for them. Increasingly, taxes are increased in order that adequate services may be given to today's citizens and assured for future generations.

GEOGRAPHY

It has been said that anything that is not evenly distributed over the world can be profitably analyzed by geographic methods. Geography focuses attention on the distinguishing features of regions, and on the differences and the interrelationships between them. It stresses the meaning of all these things to man. Geography studies the effect on man of his environment. It seeks to examine all the available evidence in the hope that it can describe such relationships as may be found. The environmental forces that surround man are studied on the basis of areas. Areal studies supplement the time studies that characterize history.

SOCIOLOGY

Sociology is the study of the individual against the background of various groups and cultural influences. It is one of the more recently developed social sciences. Sociology had an early and important impact on instructional methods and pupil-personnel procedures. It was seldom introduced into the elementary schools as a special subject. Rather it was taught in connection with history, geography, civics, and various units and activities in other subject areas. It did not always escape narrow compartmentalism in the secondary schools. For example, it was often one part of a three-subject course for juniors or seniors in economics, sociology, and civics.

Children in the elementary school start with an interest in family and school, but before long many children, even in the lower grades, are ready and eager to expand their experiences into the broader community. From the standpoint of a sociologist, a community is made up of eight identifiable institutions, all of which are interdependent. They are (1) kinship, (2) occupation, (3) exchange, (4) property, (5) authority, (6) stratification, (7) education, and (8) religion. Much recent work in sociology throws light on the local community as the center for the numerous activities of these institutions.

ANTHROPOLOGY

Defined as the total study of man, anthropology is the study of man as an individual and as a member of society against the background of the variety of environments and cultures in which he is found. Those who study anthropology will find many ideas and concepts that are also found in linguistics, sociology, social psychology, archeology, ecology, genetics,

This statement of objectives still leaves much for the teacher to fill in if he is to have a proper feeling for the scope of the subject. For example, what civic responsibility is referred to in the first item? What does this mean for a boy or girl in the sixth grade? How is it promoted and how do we know when we have promoted it? In regard to the fourth item, what happens when respect and observance of civil rights and liberties are taught to children in a fourth grade? These questions are not unnecessary nor are they generally unanswerable. They show, however, that objectives should be set forth in some detail. Kearney devoted 68 pages to a detailed presentation of the objectives of the elementary curriculum in *Elementary School Objectives*. Of these, 27 pages had to do with behavioral outcomes related to the social studies.

• Specific Objectives for Social Studies in Elementary Schools

THE KINDERGARTEN AND FIRST THREE GRADES

The child when he first comes to school begins to learn that freedom and privileges involve responsibilities and duties. He begins to understand, with the help of his teacher and his peers, why adults and other children behave as they do, and he begins to develop skills in getting along with them. As he goes through the lower three grades, he learns about the familiar occupations of various adults. He learns the rules of the team games he plays. He learns more and more to conform from choice rather than from force of authority. He plays and works in groups with increasing skill, participating in group discussions, learning to speak and to listen, and remembering points that need further study. He learns how to shift from being a leader to being a follower and back again. He begins to develop skills in making introductions and in behaving in many other social situations. He becomes willing to be of service to his group and gradually increases the size of the group with which he feels at home at play or work. He accepts assignments from his group as well as from his teacher. Sometimes, he plans and helps to execute rather pretentious projects with a small group of his peers. He sometimes serves as a school monitor, a class officer, and the like. In many ways, he gains experience in helping to set up standards and in upholding them. At the end of the third grade he may have one or more "bosom" pals, though this may not come until later. He begins to show interest in stories about real children, their adventures, and their pets. He begins to develop the ability to put himself in the other fellow's shoes—to develop some sympathy and understanding for those who are unfortunate or unwise. He shows some of this development in simple ways such as in sharing and in helping put things away in

judgment until facts and experience are available, to consider other viewpoints as solutions are sought, and to search out and disregard bias and prejudice. Children must learn in their classrooms to try to approach social problems without fear or insecurity, and in a spirit of free inquiry.

• General Objectives for Social Studies

OBJECTIVES CAN BE BROADLY OR NARROWLY STATED

They can be stated in terms of the content of courses of study and in terms of behavioral outcomes that are observable (and sometimes measurable). That is, we can state outcomes in terms of subject matter that is learned or in terms of how pupils behave when they have benefited by what they have learned.

In its broadest sense, we can state the objective of social studies (or of any other study) as being designed to contribute to human welfare. This statement can be expanded by mentioning various conditions that help social studies make a contribution to the advancement of humanity. These are the aims of social studies:

1. They promote civic responsibility. (Play your part well in all government and service organizations.)
2. They build up social responsibility. (Men should act in accordance with good motives in all situations when others are involved.)
3. They promote democratic behavior. (This springs from a deep respect for each individual because he is human.)
4. They develop respect for the rights and privileges of others. (Understand the peculiar personal value of observing and protecting the civil rights of others.)
5. They increase efficiency in finding and using appropriate data. (This involves checking and assimilating data as well as in locating information.)
6. They help to identify current crucial problems. (At school these should be identified in terms of the maturity of the learner.)
7. They develop the ideas of the interrelatedness and interdependence of men and of societies.
8. They foster cooperation. (Cooperation is essential to everything we do—when a businessman hires his first employee, or when two boys change a heavy tire.)
9. They develop vocational information. (Very few of the vocational skills now taught in the elementary schools are so labelled.)
10. They help pupils to become intelligent consumers of goods, services, and cultural opportunities. (For example, we must educate those who would look at the pictures as well as those who would create them.)
11. They contribute to better home and family living. (In school, emphasis may sometimes be on the role of the child in relation to the other members.)
12. They teach children to adjust to the constant changes that will be necessary and inevitable during their lives.

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the classroom and in being thoughtful and courteous to those who are less or more highly endowed physically, mentally, socially, or economically than he. He accepts and tries to understand those whose cultural, religious, racial, or nationality backgrounds are different from his. At the same time, he is anxious that they understand him. He develops interests, too, in needy children in other parts of the country and world. He is sometimes fascinated by stories of primitive people and prehistoric times.

By the end of the third grade, the average child knows quite a bit about early life in our country, and about the life and culture of the American Indian and the Eskimo. He has begun to study the effect of environment on the way man lives, and this may well be begun by studying the relationship between climate and seasonal changes and the way people live and dress and earn a livelihood. The pupil develops a growing geographical, historical, and social science vocabulary and a reading recognition of many of the words in that vocabulary.

At the end of the third grade, many children will be able to read maps of their city or town and locate familiar places on them such as school, home, church, and grocery store. On larger maps, they may be able to chart imaginary travels. They know a little about the change from making things in the home with simple tools to making them in factories with big machines. They know that we have had and are having a continuous industrial revolution. They approach most of the new experiences and ideas that they find at school with curiosity and confidence. They develop a sense of humor that allows them to laugh at themselves when the going gets rough. They tend to defend those who are wronged or injured.

In grades four, five, and six, many of the social studies learnings begun in the lower grades are built upon continuously. At the same time, new ones are added as the children become older. By the end of the sixth grade, children should have some well-defined ideas about freedom, duty, and responsibility. They should be experienced as well as informed about working in groups toward common ends. They should know much more than when younger about what is involved in being a leader or a follower, and about the different kinds of behavior that are called for in *structured* and *unstructured* situations—at school or church as opposed to attending a casual picnic or a bathing beach at the lake. In the upper grades, children learn a great deal about elections by holding their own, not only real elections on their own issues and officers, but “straw votes” on national and state issues as well. They learn to elect representatives to governing bodies. They preside over the class or a group within it and, in the process, use *Robert's Rules of Order*. The more able and aggressive pupils may develop great parliamentary skill if given the opportunity.

Grades four, five, and six provide many opportunities to develop interest

and concern for the sensibilities of others in school and in social situations. They become concerned with, and take action to, insure the safety and health of others. They learn to cooperate, to show courtesy, to practice sportsmanship when occasions call for it. They give to others the right to differ from them on many issues. They have learned that it is sometimes difficult to overcome racial and religious prejudice, and that to understand people who are different, it is necessary to look out through their eyes and to feel with their emotions, to see themselves as others see them before they can expect to see others as others really are. They have learned what stereotypes are and how to guard against thinking in such terms. They have learned to appreciate different races and cultures and have become interested in social problems broader than those in their own community.

By the end of the sixth grade, children have learned something about the social and economic significance of money. They have learned, too, about the economic effects of modern changes in travel, transportation, and communication. They know that these things have, in turn, affected local, national, and world affairs. They know that many of the social and cultural differences between peoples are affected by the degree of their technological development. They know that air travel has made new maps necessary.

Sixth-grade children have learned how to read political and physio-graphical maps. Many are able to analyze school rules or township board procedures in terms of democratic principles.

Upper-grade children are interested in stories of adventure. They like to think that their heroes once lived, so they like historical novels and biography. Their interest in science also leads to an interest in science fiction. They like true stories, too, about man's struggle to modify and control his environment. They try to look at problems from all sides. They examine conflicting opinions and conflicting arguments. They try to recognize superstitions and differentiate them from other opinions and from science. They examine propositions that have allegedly been proven and examine the nature and basis of the proof.

Scope and sequence in the *typical* social studies program in the elementary schools is not a controversial topic. The kindergarten and first grade stress the skills and information needed by children as they live and work and play with others in the home, school, and neighborhood. In the second grade, the children move out into the community a bit beyond the immediate neighborhood. In rural areas, this may take in the whole small community, which sometimes is no more than a small neighborhood. In the third grade, some of the children begin to be interested in the state. The historical approach to the study of the state is used in the lower grades, with stories of early settlers and Indians and with discussions of the rivers,

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opportunities for educational experiences. Teachers and pupils may, for example, plan and conduct community surveys, or discover and write community histories (or histories of specialized aspects of community life). They may prepare annotated summaries of the many services, governmental and private, available in the community. For example, one or two children may list and classify the retail outlets of a small community while others will list all of the health services available, public and private. Children may make historical surveys of the community, or of certain aspects of its growth. One group may study the churches, another the schools, another transportation, and a fourth may study possible future growth. They may undertake community planning. In some cases, plans prepared and submitted by pupils may be presented to community leaders. As children progress in their study of their own community, they may wish to compare it with other communities of its kind, or with communities that are quite different. Some community projects are quite modest, others are more ambitious. In the early months of kindergarten, a walk around the outside of the school and for a block on each side may provide highly valuable orientation to the young children. Neighborhood trips are excellent in the lower grades. Visits to businesses, industries, and government agencies begin to be valuable as children grow older. Visits show the younger pupils how people serve one another and how dependent all people are on others. In the middle and upper grades, children will begin to be interested in processes, products, and the economics and civics of what they see. Sometimes a class will wish to make a map of an area, neighborhood, or community. This may be a most valuable project, full of supplementary outcomes in mathematics, for example, or in safety education.

Children often do much creative thinking when they study their community. They may study old statistics and records, make collections of old photographs, study the dates on old buildings in town, interview old residents and old "settlers," visit museums and historic sites, and dramatize historical incidents that occurred during the growth of the community. Many illustrations of projects involving community study are to be found in the final three chapters of this book.

The "here" and the "now" are important. For young children, and for the great majority of all children in elementary school, surveys of the local community should concern themselves in a large measure with things that have occurred locally and recently. Young children are generally more concerned with the present and the local than the past and the distant. Their ability to deal with the remote in time and place must be slowly and carefully cultivated. Thus, it may be advisable for most of the children to start with a survey of something in the here-and-now, and to delve into the past only as it throws light on the present. Sometimes a few selected children will do exceptional work with ancient ages and distant places.

forests, and prairies before modern industrialization. In the fourth grade, the children get their first extensive introduction to the United States as a whole. The emphasis is partly historical and partly current as the growth and expansion of our country is stressed from early discovery through recent industrialization. Either in the fourth or fifth grade or both, there is sometimes quite a bit of emphasis on old-world backgrounds to American history. The fifth-grade children study the United States as it grew into an industrial nation. The geographical or areal approach is often used here. Areas are studied such as the farming, mining, forest, and recreation regions. Fishing, lumbering, ranching, and manufacturing are studied. In the sixth grade, the social studies generally shift to the political history of our country with emphasis on the growth and development of democracy. Our relationships with the rest of the world are introduced somewhat systematically and there is some attention to the United Nations. Other countries are discussed from the standpoint of their people and problems, their resources and state of development.

The Baltimore Public Schools, in the excellent *A Guide to Elementary Education*, have usefully included a list of skills to be developed in elementary school for social living. There are 113 specific skills, listed under thirteen headings. There are skills in (1) social competence, (2) group processes, (3) locating and gathering information, (4) using library facilities, (5) using parts of a book, (6) organizing and evaluating information, (7) summarizing, (8) using graphic information, (9) using methods of orderly study, (10) reading and listening, (11) speaking and writing, (12) interpreting maps and globes, and (13) developing a sense of time and chronology. These skills are introduced at the primary level and taught throughout the elementary school whenever the need and the opportunity arise.

SOCIAL STUDIES MUST BE RELATED TO THE SCIENCES

In some curriculums, the social studies in the elementary schools are studied in close association with the sciences. Children should learn that almost all aspects of man's social living are affected by his physical environment and by his skill in manipulating and controlling various aspects of that environment. These relationships are stressed in Chapters 17 and 18.

The social studies curriculum in the elementary schools seeks to point out the relation between man's social problems and the characteristics of his particular physical environment. Man's social institutions and his customs and mores are often influenced by his physical environment.

THE COMMUNITY AS A RESOURCE

Teachers of the social studies motivate and instruct through the use of direct experiences whenever possible. The local community provides many

to do so. How can you as a teacher help them to spend this period of preparation without having them suffer the disturbances that accompany the denial of full participation?

10. Critics sometimes make fun of social studies and urge a "return" to civics and history and to required good deportment. How do they misunderstand the word "social" in the term "social studies"? Do modern social studies sacrifice or strengthen history or civics?
11. Sometimes teachers feel that they should skip certain topics because they are controversial. Do you agree?
12. It is often said that social science today cannot be taught apart from the physical sciences. Do you believe they are or can be taught in an integrated fashion in the elementary schools?
13. How does social studies instruction parallel child growth and development?

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Firsthand experience is more conducive to the mastery of power and insight than are the vicarious types of learning gained secondhand from the pages of a book or the words of a lecturer. It is obvious, of course, that most knowledge eventually comes "secondhand," but at first as much of it as possible should be direct, until rich resources of experiences shall have been accumulated.

Current events owe much of their attractiveness to their here-and-now nature. The names and places and issues are a part of life today. Because of their appeal, current events are useful in teaching reference work, in encouraging independent thinking and judgment, in showing the meaning of democracy and civil rights, in teaching about jury trials, and about innocence until proven guilty, in encouraging careful and valid generalizations, in bringing about resistance to propaganda, and in distinguishing the important from the unimportant and the sensational and brutal from the significant and the humane.

• Discussion Questions

1. What other factors besides those mentioned by the authors are indicative of a good social studies curriculum?
2. In view of the world situation today, would you say that social studies or science and mathematics are most important for the survival of our way of life?
3. How early can children understand something of the importance of principles such as the following: Legally, a man is innocent until he is proven guilty?
4. Do you wish to criticize or supplement the twelve objectives given in this chapter for the study of social studies? In the second objective, what do we mean by "good" motives? In the third, what do we mean by "respect" for others?
5. The lists of outcomes listed in this chapter are meant to serve as outcomes difficult enough to challenge the most gifted. How do they look as outcomes for "average" children? If too hard, how could they be adapted?
6. Most teachers who teach by the unit method or the committee method organize the units or the committee work around a social studies core. Why is this true? Is it necessary or should the practice be varied? How?
7. A sociologist's definition of an institution might be somewhat as follows: An established law, method, or custom that is a material and persistent element in the social organization of a people. Compare this definition with the list of eight institutions on page 262. Is it adequate?
8. Can a person be objective regarding his own culture? Can a person see himself as he appears to his colleagues? His brightest pupils? His slow pupils? His employers?
9. Children do not participate fully in the social and economic life into which they were born. They spend childhood and youth getting somewhat ready

The language of numbers provides a way to manipulate ideas about time, size, shape, amount, frequency, relationships, and probabilities. Numbers are abstractions unless applied to things. Many devices help children to understand our number system, and to see how the abstract can be applied to the practical.

• The Changing Arithmetic Curriculum

The content of the arithmetic curriculum and the methods of teaching it in the elementary schools have begun to change. Until recently, such changes were minor and had to do with (1) shuffling the levels at which various topics were introduced and taught, (2) eliminating subject matter that was of only occasional concern in our modern world, and (3) broadening the offerings at the various grade levels to better provide for the wide ranges of arithmetical ability found among children. The new change, which encompasses three major areas, came about in response to changing ideas about the social utility of various items in the arithmetic course of study.

First, there have been marked changes in the methods by which arithmetic is taught. Second, there is more emphasis on the nature of our traditional number system, in order to provide greater insights into the workings of our number system and to show how other number systems might work (and do work in some machine tabulating). Third, there is a growing realization that many children, when adult, may have less need for facility in the manipulation of numbers than do adults today, but more need to understand and make use of mathematical concepts. For many people, *computation and manipulation will be taken over largely by machines*. At the same time those who work with mathematics will be dealing in concepts—in ideas about what the machines are doing or are capable of doing. In other words, on many levels of vocational and professional living, the mastery of mathematical skills will be less important than today, but insight into the how and why of numbers—into how machines can provide what is needed—will be most important. This will require a high level of understanding of what mathematics is and what it can do.

THE EARLY CONCEPTION OF ARITHMETIC

STUDIES

Mathematics provides us with ways to count, to compare, and to estimate. For a

fractions, decimals, and per cents. However, this knowledge and skill does not, in itself, enable students to generalize, to devise new processes or to try new methods in the solution of problems.

Arithmetic has long been regarded as a hard and often discouraging subject. It was often taught mechanically with no attempt to show why it all turned out the way it did. Children were taught to follow the rules and then to "prove" their answers. The tasks were presented mechanically, and children were expected to remember "how" to do it with little understanding of "why." Parents were frequently warned not to help children with their arithmetic, as they might use a different method than the one used by the teacher, thus confusing the child and the teacher. Even highly intelligent children refused to memorize mathematical processes that they could not understand—they wanted to gain insights but were given only mechanical procedures. Today some teachers welcome as many different methods as possible in order to teach for insights into why our number system works the way it does, and why the right answers can be arrived at by various methods.

How good is an arithmetic curriculum? Teachers frequently wonder if the curriculum outlines in use in their school are all that they should be. When this question arises, it may be well to ask certain questions. (1) Does the outline fit the objectives that the schools have in the teaching of arithmetic? (2) Have those objectives been stated clearly enough to help those who formulate the curriculum outlines? (3) Have the objectives been formulated in terms of the needs of youth in our increasingly complicated world? (4) Does testing seem to indicate that we are making progress in reaching our objectives? (5) When children are working at activities that call for initiative and originality, do they show a growing ability to use mathematics? (6) Does the curriculum outline give many suggestions for stimulating interest, such as number games, arrangements, and "magic"? (7) Does the outline suggest things that can be done with the very intelligent children to keep them stimulated and learning? Does it provide for those of lesser ability? (8) Do the outlines relate mathematics to the other subjects? (9) Do the outlines show more than one method for solving problems, and then by a comparison of the methods, try to build insights? (10) Do the outlines assist teachers in building good attitudes toward the learning of arithmetic?

• Controversial Issues

Controversy has raged over the teaching of arithmetic. For example, there were those who advocated careful planning of the arithmetic curric-

long time, mathematics in the elementary schools was thought of as a counting skill. When we add, we merely count in terms of numbers that are not necessarily equal. Subtraction was conceived of as a species of counting backwards. Multiplication and division were merely more complicated ways to add or to subtract. Little attention was given to the nature of the number system or to the new uses to which it was being put. Teachers tended to keep children busy with trivial problems and superficial discussion of solutions, and there was almost exclusive dependence on rote learning and the mastery of routine skills. Even when problems were "proved" there was often no understanding of why the "proof" was evidence that the result was dependable.

Counting is fundamental in mathematics, and it is all that can be expected of young children at a certain stage, but counting is only a step to other things. In the last twenty-five years, and particularly in the last ten, there has been an increasing realization that arithmetic in the elementary schools should provide an introduction to the number system, to the use of numbers as an art and a science, and to insights into why numbers combine and interrelate the way they do. There should be work designed to develop the concept of arithmetic as a valuable tool for describing in quantitative terms the things man finds about him in his physical and social world, and for manipulating them in various creative ways to the advantage of humanity.

Arithmetic, properly taught, contributes to total growth. It should contribute to the growth of the whole child. This sounds trite, but it has particular meaning with arithmetic, since numbers exist initially only in relation to things that are experienced. Arithmetic is not an isolated skill that exists off to the side, important but unrelated to life as a child knows it. Too often, in the past, it was so regarded. It was thought of as the language of numbers and of science, logical, systematic, mysteriously balanced, somewhat magical and, though useful in many areas of learning and living, best learned in isolation from them. Teachers have learned the folly of such teaching. Subject matter, including the subject matter of arithmetic, can be related to the social objectives of education and to the kinds of arithmetic that we need in learning to make democracy work. It can be related to earning a living, to planning one's leisure and one's recreation. In fact, it pervades our whole living. Buckingham has made the point that we must fuse social and formal arithmetic if we are to teach insights.¹

It is true, of course, that the computational skills can be facilitated and made efficient by being memorized. It is true that facility can be developed and should be developed in the manipulation of whole numbers, common

¹ NSSE, *The Teaching of Arithmetic*, Fiftieth Yearbook, Part II. Chicago: University of Chicago Press, 1951.

fractions, decimals, and per cents. However, this knowledge and skill does not, in itself, enable students to generalize, to devise new processes or to try new methods in the solution of problems.

Arithmetic has long been regarded as a hard and often discouraging subject. It was often taught mechanically with no attempt to show why it all turned out the way it did. Children were taught to follow the rules and then to "prove" their answers. The tasks were presented mechanically, and children were expected to remember "how" to do it with little understanding of "why." Parents were frequently warned not to help children with their arithmetic, as they might use a different method than the one used by the teacher, thus confusing the child and the teacher. Even highly intelligent children refused to memorize mathematical processes that they could not understand—they wanted to gain insights but were given only mechanical procedures. Today some teachers welcome as many different methods as possible in order to teach for insights into why our number system works the way it does, and why the right answers can be arrived at by various methods.

How good is an arithmetic curriculum? Teachers frequently wonder if the curriculum outlines in use in their school are all that they should be. When this question arises, it may be well to ask certain questions. (1) Does the outline fit the objectives that the schools have in the teaching of arithmetic? (2) Have those objectives been stated clearly enough to help those who formulate the curriculum outlines? (3) Have the objectives been formulated in terms of the needs of youth in our increasingly complicated world? (4) Does testing seem to indicate that we are making progress in reaching our objectives? (5) When children are working at activities that call for initiative and originality, do they show a growing ability to use mathematics? (6) Does the curriculum outline give many suggestions for stimulating interest, such as number games, arrangements, and "magic"? (7) Does the outline suggest things that can be done with the very intelligent children to keep them stimulated and learning? Does it provide for those of lesser ability? (8) Do the outlines relate mathematics to the other subjects? (9) Do the outlines show more than one method for solving problems, and then by a comparison of the methods, try to build insights? (10) Do the outlines assist teachers in building good attitudes toward the learning of arithmetic?

• Controversial Issues

Controversy has raged over the teaching of arithmetic. For example, there were those who advocated careful planning of the arithmetic curricu-

ulum with each step carefully decided in advance. On the other hand were those who would have the necessary and important arithmetic develop out of the interests and needs of the growing children. As the conflict grew in intensity, those who held to the first position were called drill masters and authoritarians, and those who held to the second position were accused of advocating a soft, planless curriculum. Caswell and Foshay² were among those who set that controversy at rest. They said that neither kind of instructional program in arithmetic could be found in the schools. They insisted that no one of any stature advocated that all planning should be done away with, and likewise no one advocated that any plan or method should be followed slavishly without taking the needs and conditions of the moment into account. Perhaps we could say that the teaching of arithmetic should proceed on a systematic, planned basis, with the teacher guiding the learning of the children, making use of activities that grow out of their interests and abilities and that provide a mathematical background sufficient to meet their real needs.

There have been many discussions of the extent to which instruction should be pre-planned. Should it be laid out in terms of the logic of the subject? Should it be outlined according to the need and usefulness in life of certain mathematical skills and insights? Most of these discussions are based on philosophical and logical arguments without accompanying research. The fact is that children grow up in a world that is full of mathematics—systematic mathematics. As much as possible, instruction in mathematics should be planned in terms of the natural interests of the boys and girls in the classrooms.

Pupils can assist in setting goals and planning the work. The processes of using developmental activity units to stimulate interest and maintain motivation are described in Chapter 4 and illustrated in Chapters 21, 22, and 23. These chapters show that children are realistic when they set their own goals.³ They frequently set higher standards for themselves than teachers would. Actually, the effort to let motivation spring from the interests and needs of children rather than from a rigid, teacher-made plan, is due to the effort to bring meaning into arithmetic. Arithmetical meanings develop out of concrete, interesting experience in solving real problems through utilizing the structure and function of the number system. Arithmetic can be functional only when it is understood. Arithmetical solutions must be thoroughly understood if they are to be used again and again to solve similar problems. Meaningful arithmetic will be remembered better than processes that lack meaning. These meanings develop best in experi-

² Hollis L. Caswell and A. Wellesley Foshay, *Education in the Elementary School*, second edition. New York: American Book Company, 1930.

³ See also Parish and Watkin, *Teacher-Pupil Planning*. New York: Harper, 1938.

ence units that are based on the familiar interests and the real needs of children in their daily living.

RESEARCH IS NEEDED

The actual amount of research that throws light on the effectiveness of various instructional techniques is surprisingly scant. Much of the research that is widely accepted is not recent and should be repeated in a modern setting. Many widely accepted procedures are the result of expert opinion rather than of well-designed research. It may be profitable, however, to list a few of the conclusions arrived at by some researchers.⁴

1. There is little difference in teaching subtraction by the decomposition method as compared to the equal-additions method, but what difference there is favors the former.

2. There were small differences in teaching long division by the conventional method as opposed to the subtractive algorithm, but what differences there were favored the conventional method for the high intellectual groups and the subtractive method for those of low intellectual ability.

3. Teaching for meaning results in learning that is superior to other kinds of learning.

4. Drill, even to the point of abstract recall, does not guarantee appropriate recall in terms of the problems that are faced.

5. Skill in the use of numbers in combinations and relationships is slowly developed from simple to more complex stages.

6. The use of various "crutches" and "helps" and intermediate steps in solving problems may aid the learner to achieve understanding instead of encouraging dependence on memory without insight. They can be eliminated when insights are established.

7. The teaching of arithmetic is improved on all grade levels when attention is paid to the readiness of the learners, readiness being a state of preparation for the materials that come next through some degree of mastery of the basic prerequisite skills and understandings.

8. Favorable attitudes toward arithmetic on the part of children are determined by parents' attitudes toward arithmetic, by parents' expectations, and by the enthusiasm of teachers who know and like the subject, who want children to like it, and who are able to maintain pleasant discipline.

9. There is some evidence that children learn as much arithmetic in the elementary school when limited to social arithmetic in the lower three

or four grades, as they do when "formal" arithmetic is taught at all grade levels.

10. Some old evidence indicated that children came to the first grade with much more arithmetical knowledge than estimated (With our modern media of mass communication, this knowledge is probably greater than ever.)

11. Children should "learn" the multiplication tables before they memorize them.

12. Probably we should not teach "short" division, at least until children have mastered the long form.

13. There is probably little difference in the effectiveness of estimating the quotient by the "apparent" method of regarding the divisor, as opposed to the "increase-by-one" method.

14. The ability to solve verbal problems quickly and accurately can be learned and improved and is only one indication of general mental ability.

15. Understanding of fractions is helped by the use of manipulative materials.

16. Research regarding the advisability of using workbooks has produced conflicting results. There are some good workbooks and some not so good. The good ones must be properly used to provide a wide variety of materials of all kinds from which to select what is needed. Properly used, they are convenient and probably valuable.

17. Research regarding the use of devices in teaching arithmetic is indeterminate, but their use does not produce any startlingly good results.

18. Review as a quick overview will probably fail to teach what the children missed the first time at a more leisurely pace.

19. It is better to teach for accurate mastery than for speed.

20. The research evidence is not clear regarding the effectiveness of ability grouping in improving group achievement in arithmetic.

21. We need research concerning the value of homework in arithmetic.

ARITHMETIC IS A VARIED SUBJECT

It is relatively unproductive to argue about which aspects of instruction are most important in the teaching of arithmetic. Arithmetic should be taught as the varied subject that it is. It should be taught for its social utility in everyday living; it should be taught as problem solving; it should be taught as a thing of beauty and of perfect balance and logic; it should be taught as an instrument that gives meaning to social statistics and to a wide variety of reference materials; and it should be taught as concentrated drill to make readily available the arithmetical tools necessary for daily living. All of this means that much arithmetic can be taught in devel-

opmental activity programs that deal with broad, integrated areas, but that teachers must feel free, at appropriate times and with properly selected pupils, to teach arithmetic in isolation from other subjects where that seems necessary and to resort to concentrated drill where that seems advisable.

Children can learn to use numbers as abstractions. It certainly seems clear that the teacher who teaches for meaning within the structure of our number system will need to teach about abstract numbers. When you learn to borrow in subtraction, it would seem gratuitously awkward and somewhat doctrinaire to borrow ten "horses" or one hundred "apples." Children will gradually develop the idea, if they don't already have it when they come to their first formal instruction in numbers, that numbers can be used as abstractions and that you can think of ten without having to think of ten oranges or ten ants or ten something-else.

Children should be encouraged to estimate. Teachers encourage the development of insight when they request that children make an estimate of what the answer to a problem may be before they start to solve the problem in a formal fashion.

Skill in arithmetic demands drill. It is desirable that children learn many arithmetical skills to the point where they are automatic. However, drill is ineffective, inefficient, and sometimes positively harmful unless it is based on meaningful material (meaningful to the child). If children are to benefit as they should from drill, they must understand what they are learning and memorizing, and they must see the desirability of mastering it.

Readiness is important in arithmetic. Many of the factors mentioned in Chapter 13 that concern readiness to read apply also to readiness for learning arithmetic. To assess a child's readiness to use numbers thoughtfully and efficiently, the teacher needs to know what the necessary skills and abilities are and the extent to which each child has mastered them in his previous work. Each child passes through various stages of growth. The first stage comes at an early age when the child needs to manipulate concrete objects in his search for understanding of quantity. Many of us who have seen babies laboriously place blocks in pans and take them out—over and over again—are aware that this is an example of the early study of mathematics and science—the study of size, shape, and capacity. Following the concrete-object stage, children are ready for a certain amount of symbolism. Pictures can be used, as can dots, circles, or lines to illustrate size, number, and relationship. Finally we move into a period when regular arithmetical notation can be profitably undertaken.

Arithmetical experience and the symbolism to express it are both important. As we work with children in arithmetic in the elementary schools, there are two problems that always confront us. The first one is to provide children with a rich and full experience in dealing arithmetically with all

be used for many children, and most children will be able to learn three-column addition if the columns are short. Most of them will have some success with three-column subtraction, with borrowing, even with zeroes in the minuend. The third grade is a good place for some children to undertake the systematic study of multiplication and division. In division, remainders probably should not be expressed as fractions until fractions are more thoroughly explored. (Some children at the end of the third grade will still be struggling with first-grade concepts while others will be comfortably into fourth- or even fifth-grade work.)

At the end of the first three grades, capable pupils may understand, read, and write three- and four-digit numbers with a great deal of competence and understanding. If they have had an opportunity to learn it, they may know some of the simple similarities between modern ways of counting and calculating and those used in early times. They know that numbers are valuable tools to apply to things to express quantity. They use them thus in dealing with the common coins; with hours, days, weeks, and years; with inches, feet, yards, and miles; and with various other simple measures. They learn early, however, not to attempt to add unlike quantities such as apples and pencils. At the end of three grades, many children will understand a lot about the meaning of fractions (even if most of them don't know how to write fractions or how to manipulate them in problems). They can read Roman numerals up to X. They have an increasing vocabulary of quantitative words such as *more*, *less*, *large*, *small*, *many*, *few*, *frequent*, and *seldom*. Some pupils are able to count by 2's, 3's, 4's, 5's and 10's up to fifty, one hundred, or even one thousand. They begin to learn that zeroes and other digits hold "places" and they learn how to bridge the tens. Almost all of them learn to tell time, using minutes, quarter hours, and hours. They learn to make simple change with pennies, nickels, dimes, and quarters.

They are introduced to arithmetic and led into it in such a way as to develop a respectful attitude toward it, and an expectation that they can make it serve their purposes. They learn to watch for numbers in their reading, with the idea that numbers provide valuable cues to the meaning of what is read. They learn to use numbers competently in keeping score in their games, in keeping track of radio and television programs, in using simple bibliographies, and in many other personal contexts.

In the fourth grade, children begin to deal with numbers of four and five digits. They will begin to develop skill in reading and writing fractions. Experiences will be provided that will develop readiness for later work with fractions. In the fourth grade, longer and harder problems in addition and subtraction are introduced, and children come to grips again with the meaning of carrying and of zero as a place holder. They extend upward

for the possible benefit of mankind. Most of them, too, should come to regard mathematics without fear or dislike or other damaging emotion. Increasingly, as the years pass, the children use their knowledge of arithmetic in the other curriculum areas.

• Instructional Tools

The materials of instruction should be selected to emphasize the function of mathematics in social situations as well as in personal business and in science. They should, of course, illustrate the mathematical side of everyday living in the home, the school, and the larger society.

Teachers who attempt to achieve all these things with a roomful of children should always be alert to equip their rooms with instructional tools that stimulate, interest, and explain. In arithmetic, there are countless materials that can be used as they seem appropriate. Among them are:

clock dials	abacus
calendars	games of chance
time tables	pennies (heads or tails)
baseball statistics	compass
mileage charts	bank statements
speedometer dials	stock market quotations
rulers, tapes, and yardsticks	census reports
measuring cups and spoons	election returns
scales	achievement test "profiles"
thermometers and barometers	school attendance statistics
weather charts	state school aid figures
geometric patterns	weight and height charts
road maps	egg timers and other sand glasses
blueprints	(shadow clocks)
chain store advertisements	planographs
adding machines and calculators	metronomes
mental magic such as magic squares	

RELATE MATHEMATICS TO SCIENCE

It is important to stress the unique role of mathematics in modern engineering and research. Mathematics itself is not experimental (it is logical and deductive), but it is an indispensable scientific tool. Experimental science is inductive. Arithmetic is non-experimental because it can be studied independently of any observation of real life situations. Arithmetic is *deductive*. Experiments are conducted so that the scientist can *induce* from the results generalizations about the way the physical environment functions. The mathematician, on the other hand, is concerned with accu-

rate deduction. He shows what can be said by the use of numbers and geometric figures. Arithmetic is the language of numbers or, more precisely, it is the grammar (the manipulative rules) regulating the quantitative measurement of dimensions and numbers.

In the work-a-day world induction and deduction go hand in hand. The experimental scientist uses arithmetic and geometric language in describing his findings. The elementary-school teacher must prepare students to think in terms of this quantitative language. The introduction must be skillful or the student may form a block against it for the remainder of his life. Everything that can be said about teaching any other language applies to arithmetic. For example, it must be taught "conversationally" before its grammar is practised. Students must become acquainted with arithmetic communication. When youngsters work at a task where counting or measuring of any type is possible, the teacher should allow them "to talk their quantities." After they have familiarized themselves with number language, the rules of multiplication, division, subtraction, and addition can be taken up. The student progresses much more rapidly if the "grammar" is postponed until he has begun to feel at home in the language. Grammar in arithmetic is a set of rules that experience has shown to be useful in making the language of quantitative measurement more efficient. This viewpoint has emerged and won increasing recognition within the past two or three decades. Elementary science must work hand-in-hand with arithmetic. Educational practices could be improved from the greater application of arithmetic to science. Much arithmetic could be taught as an aid to students in exploring, describing, and controlling their environment. Arithmetic, essential for accurate and general description, is a profitable accompaniment to a course in science.

SOME MATHEMATICS HISTORY

The history of mathematics should be studied. It provides teachers with an interesting and productive opportunity to relate mathematics to science and the social sciences, as well as to teach mathematics itself from the standpoint of imparting insights. There was a time, we know, when people could not even count. Today, when the teacher "calls the roll" he is repeating a very primitive type of *census-taking*, for primitive folk gave a special name to each person in a group and called these names at various times when the tribe was assembled, to discover if any change had taken place in the size of the group. The teacher can use this illustration to clarify for the child this aspect of arithmetic. Even the seating chart is handy for the same purpose. It is a primitive counting device.

As part of the intercultural school program, a study can be made of the

manner in which people count in other parts of the world. Tracing systems of counting around the globe is a way of demonstrating the simplicity of our counting system. This is also true of the writing of numbers. When certain American Indians wished to write that eight men had camped in the vicinity, they put all eight men in a picture. Of course, in keeping the score we still "tally" by drawing short vertical lines close together. To avoid confusion that might result from too many lines being drawn close together, it is common practice to group the lines by fives by drawing a slanting line across each four vertical lines. This procedure is quite primitive.

All the figures that the master mathematician uses are combinations or representations of the numbers one through ten. These figures have a history. Too many people are unfamiliar with the Arabic numbering process and consequently are never able to grasp the meaning of such things as zero and the minus quantities in algebra. The concept of zero is indispensable for using algebra, algebraic graphs, trigonometry, and the higher mathematics. Nor is the concept of zero a simple idea to grasp, for it expresses no quantity. The teacher should explain how zero is used only to keep the quantitative numbers in their places. For example, 3 written with a zero means 30, but 3 written or used with two zeros at its right means 300. Thus, zeros are used to keep the three's in one of the ten's columns. The function of "carrying," of moving from the ten's column to another, is simple when the theory of zero has been clearly understood. It may take a little time to develop it with the students and far from all pupils will be able to understand it, but, then, it took a long time for the Hindus to work it out originally and for the Arabs, who borrowed it from the Hindus, to convince Europeans of the value of its use. Europeans were skeptical of the Arab-Hindu number system, but its remarkable usefulness convinced them of its value. The concept of the zero is but one example of the utility of mathematical abstractions and of the wisdom of broaching any mathematical abstraction from the viewpoint of its usefulness. As students begin to learn to use the Arabic number system, they see how useful it is to be able to add, multiply, subtract, and divide. Students have need to "sort" and to count all the time. An interesting way in which children can be made aware of the utility of mathematics is given in Chapter 23 in connection with the operation of a classroom store.

To the right of zero. The Arabs knew nothing of decimals. They worked to the left of the zero but never to the right. That is, they did not use their algebra to find laws of combinations for tenths and hundredths. These rules, first worked out by the Flemish mathematician, Simon Steven, in the 1590's, are really the same as the rules for combining tens and hundreds. It took

centuries to make this advance and students must not be expected to swallow it at a gulp. It is a fact that 250 years ago very intelligent people stood in awe of ideas and calculations that an eleven-year-old today is expected to grasp with ease. To contemporaries of Pythagoras, the Greek arithmetician, numbers and geometric constructions were so new and wonderful that they held them magical. Plato thought mathematics so special that he held it as one of the chief studies and pleasures of the rulers. Philolaus, a follower of Pythagoras, established a club to preserve the secrets of arithmeticians.

The utility of arithmetical signs. Among the more utilitarian devices are the arithmetical signs that mean *equal*, *plus*, *minus*, *multiplied by*, and *divided by*. Students rarely know that even these simple devices were long in originating. William Oughtred used the multiplication sign, perhaps for the first time, in seventeenth-century England. Johann Rahn, in the same century, introduced the Swiss to the sign for division. The German, Johann Widman, two centuries earlier, wrote a book that used both the plus and minus signs. All these signs came into common use when arithmetic demonstrated its value for the new sciences—navigation and merchant accounting. They were invaluable then and have persisted because no substitute for them has been invented. Teachers will understand better the difficulty of mathematics for children if they understand how long it took to develop some of the devices and procedures that now seem so obvious. Many children will be enthused when they find they are learning things that wise adults struggled for centuries to learn.

MATHEMATICS AND CIVILIZATION

Mathematics has developed with civilization. The arithmetic in countries and times where counting was limited to numbering sheep in flocks and in helping keep count of the seasons of the year was not as developed as that now taught in the lower grades of the elementary school. In Egypt, mathematics developed as there was use for it. Measurements of the rise and fall of the River Nile were made. Construction of the pyramids and the surveying of the land required a working knowledge of geometry and trigonometry, both unknown to more primitive societies.

At a later date, the sailors of western Europe needed mathematics to navigate the seas. Hundreds of years later, mathematics developed along with engineering, as in the development of the steam engine, the internal combustion engine, and the use of electricity. When mathematics is studied with reference to its development and its broad use today, it becomes easier to understand and to adapt it to everyday uses. These brief historical references indicate the interesting history of science and mathematics, and suggest how it can be used to motivate and give meaning to mathematics.

• Evaluation of Learning in Arithmetic

Evaluation of pupil-learning (sometimes called appraisal) is a part of any curriculum, since a good knowledge of educational success, up to any point, is important in deciding on the next steps. As in all evaluation, so here, too, it must be done in terms of clear statements of the objectives of education in mathematics, and in terms of the effectiveness of the particular steps taken to achieve those objectives.

Let us assume that a teacher has the following objectives in mind for an activity (or for a series of lessons). (1) To develop a technical vocabulary to the extent needed for that activity. (2) To further a general interest in mathematics and a desire to use mathematics when it serves a need. (3) To understand, apply, and be able to explain the mathematics involved in the activity, and to use it in the solution of similar problems. (4) To develop accuracy and speed in the processes involved. (5) To understand the process under study in relation to algorithms and the nature and logic of the number system.

The specifics of such objectives must then be identified, and the teaching undertaken.⁵ A wise selection of the specifics will later serve as items in informal oral and written tests, through the use of which teachers can, in part, evaluate their own teaching. This will be done by appraising growth in vocabulary, the development of interest, the understanding of meaning, the command of skills, and the ability to generalize. The results of such an appraisal will be used (1) to delineate the progress of individual pupils and plan for their future development; (2) to plan for work that may be done in groups; and (3) to keep records and to report to parents and pupils regarding the individual progress that has been made.

In addition to formal and informal oral and written tests, teachers will evaluate in other ways. They will enter anecdotal records in the pupils' folders from time to time. If these are properly conceived and designed, comparison from time to time may indicate the degree of progress that pupils are making in specific capabilities. Checklists and rating scales are also useful on occasion in the evaluation of instructional procedures. Diagnostic tests may reveal the particular difficulties that beset individual pupils. Standardized achievement tests have the merit of being able to show how a given grade or class, or a group of grades or classes in a given city, compare in achievement to some other group generally selected in such a way as to represent more or less of a cross section of the pupils in

⁵ Nolan C. Kearney, *Elementary School Objectives*. New York: Russell Sage Foundation, 1953.

that grade or subject. The better standardized tests have been widely administered, so that they represent more or less identifiable cross sections of appropriate populations. They generally reflect the common elements in courses of study for various subjects and grades. They do not ordinarily measure the achievement of outcomes that are peculiar to the objectives of an individual school or community. They are most useful in measuring the mastery of facts and skills, vocabulary, and problem solving and least useful in measuring attitudes, appreciations, and interests.

Evaluation in arithmetic is far more than testing or the interpretation of tests, though that is a part of it. It involves also the close study of each individual and the making of decisions regarding strengths and weaknesses, the need for explanation and drill and for further stimulating experiences to foster readiness and background. This type of evaluation is particularly appropriate in the lower grades, though it should be used at all levels. It is enhanced through person-to-person discussion and planning. Teachers can encourage children to evaluate their own work, sometimes even to the point where they take and correct their own tests and keep records and charts of their achievement.

Arithmetic instruction should be constantly evaluated, not only at the end of the term, but at various points throughout the course.

• Discussion Questions

1. Do you think there has been some hysteria in recent years about the teaching of mathematics and certain other subjects in the elementary schools? Do you think that *all* children should or could master the amount of mathematics that the critics discuss?
2. Some critics of the schools say that much inability in mathematics is caused by poor instruction. Is it possible that children will have much greater power in mathematics when we improve our methods of teaching mathematical insight and understanding?
3. Look at the list of conclusions arrived at as the result of research. Which ones do you vigorously question? Which ones seem to be in accord with your experience?
4. Can you think of other "research" evidence that should be included in a "comprehensive" list? (This one was meant only to be illustrative.) Can you mention a few questions upon which research might be valuable?
5. Can you name three or four beliefs about the teaching of arithmetic that you believe because they are logical or because they have worked for you (or "on" you)?
6. If you heard a teacher say that he thought he could teach a year of sixth-grade arithmetic and relate the whole thing to the study of geography, what would you think? Discuss his statement and the virtues and limitations

- involved in it. Would it take a lot of extra time and effort the first time it was tried? Could there be a middle ground?
7. Do the objectives as outlined in this chapter expect too much from children in their mathematical learning?
 8. Do you understand the concept of zero as a place holder in the system of tens? Can you teach it to children? How? How young?
 9. When we see how recently, historically, much mathematical procedure has evolved, we can understand that there may be many other innovations in the near future. Would you dare to prophecy what some of these may involve? Who might be able to do so?
 10. Tell how you would evaluate the progress of second-grade children in arithmetic. How might this differ from the evaluation of a sixth grade? What are the criteria?

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SCIENCE IN THE

Children's interest in science is natural and strong; they search for cause-and-effect relationships. Children learn through patient, careful observation. They should be encouraged to defer judgement until after they have looked for and studied all available evidence.

As never before, and at an increasing rate, man is coming to understand the physical world in which he lives. The technological developments of the past century and particularly of the last few years have greatly increased man's control of his physical environment, and at the same time have multiplied in number and complexity the problems he faces. But science is still in its infancy. During the next decade, there will be many changes in the elementary school curriculum designed to achieve a new and important emphasis on science.

The teaching of science to children may be defined as the process of bringing them into a functional relationship with their physical environment. By "functional" we mean something that "can and will be used." A functional relationship with the physical environment calls for an educational program that develops skills, habits, and attitudes and imparts information concerning the tools and methods of science and the vital problems of scientific progress, human welfare, and survival. (See footnote 1 on following page.) Some of the habits and attitudes are characteristic, in greater or lesser degree, of practicing scientists in all fields. They include (1) sensitivity to relevant evidence, (2) willingness to suspend judgment until a conclusion has been warranted by experiment and observation, (3) ability to make warranted deductions from evidence, and (4) ability to make disciplined observations. In addition to these, there is the over-all characteristic of precision and patience. To obtain these ends, the teacher and the pupils must *think* scientifically.

The best science teaching moves beyond "common sense realism" and utilizes the natural curiosity of pupils about their physical world. Perhaps the most common error in the "nature studies" courses of the past was that the children were encouraged to observe a great variety of things but not taught to *observe them carefully*, to record their observations, or to suggest the possible "causes" for what they observed.

Children generally believe that they see things as they really exist. They are "*sense* realists." The

world is flat because it seems to be flat (it seemed flat to men for ages until observation was challenged and extended by scientific measurement that went beyond what the senses perceived). Aristotle, one of the great names of Western thought for over two thousand years, believed that heavy objects *must* fall faster than light objects. The lesson in all of this for the teacher is that he must help students to learn that in addition to the senses (and common sense knowledge) there is the need for careful testing of ideas, refined observation and measurement, critical review of assumptions and conclusions, and all the other steps involved in standard scientific procedure.

Children become accustomed to accepting what adults tell them. When they are repeatedly told that the earth is round, they tend to *accept* it as a fact. But simple acceptance of the statements of others does not help children to develop a scientific approach to questions. The good teacher will keep his authoritative statements to a minimum. He will not use them when they might interfere with the practice of scientific thinking. For example, the youngster in the upper elementary grades might be fascinated with a *brief* account of how men first tried to determine the shape of the earth. In this or any other problem, the children do not have to repeat all the trials themselves.

Children should be impressed with the dependence of man upon his world, and with the interdependence within all nature. This interdependence has two parts. (1) Man is dependent upon his environment. (2) Man, because of this dependence, is constantly modifying his environment and will probably learn more and more about how to modify it as time goes on. But progress is not inevitable. It comes at the cost of courage, hard work, study, experiment, restraint, and above all, a willingness to cooperate. These abstract ideas must be made real to the pupils that they may adjust to the many changes that will occur during their lives.

Cultural anthropologists call attention to the life and culture of primitive people in order to illustrate the degree to which geography affects living, as in Erik Erikson's observations of the Yurok Indians in the Pacific Northwest.² The Yurok Indians lived for generations in the narrow, densely wooded river valley of the Klamath River that empties into the Pacific Ocean just below the Yurok village. Hemmed in by the cliffs of the river banks, these Indians looked upon their valley as a world in itself. Travel was unnecessary, for each year the salmon run brought to the Yurok an abundance of food. Erikson described the tribe in these words: "They were peaceful and sedentary, gathering acorns, fishing, and preparing them-

¹ For an excellent and comprehensive statement on the objectives of elementary school science, the reader is referred to Glenn O. Blough, Julius Schwartz, and Albert J. Huggett, *Objectives in Elementary Science* New York: The Dryden Press, 1958.

² Erik H. Erikson, "Childhood and Tradition in Two American Indian Tribes," in Clyde Kluckhohn and Henry A. Murray (editors), *Personality in Nature, Society and Culture*. New York: Alfred A. Knopf, Inc., 1948.

subjects in separate periods under their traditional names, will still wish to stress (1) that the physical environment determines the way people live, and (2) that man is able to influence and control the environment to his own advantage or disadvantage. In the material that follows, examples show how these ideas and generalizations can be used to make the content of the curriculum more meaningful to the pupil.

GEOGRAPHY

Geography is one of the most instructive and interesting subjects in the elementary school because it deals with the environment as it affects man's welfare.⁴ In order to make this point, the modern teacher selects topics that emphasize the interdependence within nature.⁵ Four illustrative topics have been arbitrarily selected here. Their purpose is to illustrate a method by which interest is aroused and study is stimulated in order to achieve a realistic understanding that living takes place in an environment that yields much and demands much.

Relative humidity. The study of relative humidity is one of a variety of topics from geography, botany, and physics that can serve to acquaint students with their physical environment and its influence on human life.⁶ The relative humidity of any geographical region affects the water supply and hence the kind of crops that may be grown since plants adapt themselves to the humidity of the regions in which they grow. In arid areas, plants are small-leaved to prevent excessive evaporation of moisture that would cause the plant to wither and die. In humid areas, the reverse is true—plants are broad-leaved to encourage evaporation. A wise farmer, thinking of planting a broad-leaved plant requiring much rainfall and an atmosphere that has a relatively high humidity (in order that the plant's moisture not be drained off) would take steps to insure an adequate supply of water. Were the water unavailable, he would be courting disaster to plant the crop.

The study of relative humidity need not be limited to geography and botany. The modern elementary teacher will give students a definition of

⁴ Jan O. M. Broek, Chapter IV in *New Viewpoints in Geography*, the 29th Yearbook of the National Council for the Social Studies (Preston E. James, editor). Washington, D.C.: The Association, 1959—pp. 34-53.

⁵ See for example, Dorothy Childs Harper, *Conservation in America*. Philadelphia: J. B. Lippincott Company, 1958, E. E. Melvin, "Geography in Relation to Conservation," *Journal of Geography*, 55:349-355, October 1956.

⁶ Relative humidity or the water content of air may be expressed as a percentage relationship between the amount of water by weight in a definite volume of air and the maximum amount an equal volume of air can contain under the same conditions of temperature and pressure. For example, if a cubic foot of air at 70 degrees F. contains four grains of water, it contains one-half or 50 per cent of what it is able to hold at that temperature. Its relative humidity is 50.

relative humidity that relates it to crops and the conservation of water supplies, but it may also include demonstrations that show a few of the properties of hot and cold air, and the effect of climatic conditions on health and other aspects of human welfare.

Frost. Outside of certain favored spots in our country, almost every gardener knows the significance of a "killing frost." It typifies one of the facts of nature that cannot be prevented but whose effects can be minimized. Man is not helpless in confronting it and in this fact lies a point that the elementary-school pupil should learn. A gardener can cover a few plants at night as a safeguard against frost, but it would be financially and physically impossible for a farmer to protect a large crop in this way. However, crops in the neighborhood of large bodies of water, have a measure of frost protection since water "gives off" heat in cold weather. Some farmers protect their crops, even if there are no stretches of water to ameliorate the killing frost, by using blankets of smoke in their orchards. Other farmers know that since warm air rises and cold air sinks, crops planted at the bases of slopes will be frost-killed sooner than those growing higher on the slopes. The problem of where and how to plant on a slope in a region where there is danger of frost may lead capable children into one or more of various other topics such as the study of convection currents, the density of air at various temperatures, the difficulty of controlling erosion on slopes, the possibilities in contour plowing, or the breeding of rapidly maturing plants that may be planted late and harvested early in the growing season.

The study of the oceans. Oceans cover 72 per cent of the earth's surface. They can be studied in relation to weather, atmosphere, climate, and rainfall. In the United States, the Pacific Ocean and the leeward and windward slopes of the Sierras exemplify the relation of an ocean, prevailing winds, and a land mass. The slopes of the Sierras, facing the Pacific, precipitate the moisture borne by the prevailing winds sweeping in from the sea. The leeward slopes are dry. Many able pupils will be interested in learning the practical economic geography that is related to a discussion of living conditions on either side of the mountains.

The elementary teacher needs to develop new interests for children as well as to build upon the strong interests already present. For example, the exploration of space and the development of rocketry are enormously interesting to many children, so interesting that they and their teachers may overlook other basic realities in the environment that are essential for human welfare. The oceans typify one such reality. With a growing need for supplementary sources of fresh water both for industry and human consumption, with the need for added supplies of food and minerals that can be extracted from the sea, it would be something less than intelligent

study of the environment. Both emerge naturally and easily since man has his roots in nature, every part of which is related with every other part. The food we eat, animal or vegetable, takes its nourishment from the air, sun, soil, and water. Whether one starts the scientific study of nature from an analysis of air, sunlight, soil, and water or whether one begins by studying agriculture and animal husbandry, the lesson is clear that man and man's welfare is dependent upon natural resources.⁸

• The Environment in the Unit-Organized Curriculum

We have been discussing science instruction in terms of separate subjects that are correlated. Because the separate subjects do not overlap in any realistic teaching approach, there is a trend toward teaching in terms of units consciously and thoughtfully planned to draw on several subjects in such a way that children can come to sense the unity of nature.⁹ Broad units contain a wealth of material from which selections are made in terms of the objectives of elementary education and the interests, needs, and abilities of children. An experience unit takes place in the classroom; the written unit from which it springs should be thought of, at least in part, as a resource unit.

There are many advantages in unit instruction. However, the environment, the physical world, is the same whether it is approached from the standpoint of units or subjects. The class that keeps its eye on the essential unit, the interdependence within nature, gets at facts and principles crucial for all students.

In the material that follows, background is suggested for inclusion or adaptation as a *part* of various resource units in science. The background areas are on (1) conservation, (2) China, and (3) population. It must be held clearly in mind that these discussions in themselves do not constitute complete units or unit outlines, for a single complete resource unit sometimes is as lengthy as a small book. The three brief discussions that follow point out some materials and insights that children might learn and understand, but they also include material that will be of value only for the teacher. They are not discussed in this chapter in detail. The purpose of the discussions, in part, is to point out the importance of scientific insights for the pupil and the teacher and to illustrate the nature of some of the insights useful to both.

⁸ Arthur O. Baker, Lewis H. Mills, and Julius Tanczos, Sr., *New Dynamic Biology*. Chicago: Rand McNally and Company, 1959, pp. 37-55.

⁹ See the discussion in Chapter 12 of insights useful in planning units, both developmental-experience units and resource units.

to neglect the study of the oceans. Some significant portion of the study of science may also be directed to the advancement of human welfare.

The upland region. One of the most interesting lessons that may be learned from geography is that the topography and location of a geographical region has a good deal to do with human life in all its aspects. For example, the mountainous areas of our country are relatively uninhabited, for temperatures are low, the streams are too swift for navigation, the surface too irregular for easy travel or cultivation, and the water, through the centuries, has robbed the steep slopes of the rich topsoil. Since people live by choice where there are optimum conditions for agriculture, manufacturing, or commerce and trade, mountain areas are sparsely populated.

In these four topics, different portions of the country have been considered. Some teachers live near the oceans, some in the hill country, others near agricultural areas—all where the conditions of relative humidity, topography, and other physical factors make a crucial difference to living. There are other pertinent topics for the teachers who work near Pennsylvania's coal mines, Indiana's steel plants, or Minnesota's iron range.

HEALTH AND HYGIENE ARE DEPENDENT ON THE ENVIRONMENT IN MANY WAYS[†]

When children are taught about this dependency, the question of soil and soil conservation provides an interesting point of departure. Many farms produce large yields, but minerals necessary to human health and to healthy farm stock have been lost from much of the soil. Consequently the crops lack the essential elements necessary for health. This is one reason why crop rotation is urged by agricultural specialists. A class studying the influence of diet on good health may come to understand that growing the same crop in the same patch of ground season after season removes the same minerals until these vital elements are exhausted. Not all crops, however, require the same minerals for growth. Hence, the proper rotating of crops and the use of chemical fertilizer may partially replenish the soil. There are many indications though no present way of knowing that many illnesses are caused by dietary deficiencies resulting from the lack of minerals in the soil.

In all this, the teacher will see that two ideas, health and conservation, both indispensable for human welfare, emerge from the same scientific

[†] This topic is taken up again in the next chapter where the "life sciences" rather than the "earth sciences" are emphasized.

politics, and international relations is not out of reach of youngsters in an elementary school, if the teacher has interested himself in the elements of world geography.¹²

The influence of geography on Russia's foreign policy is a case in point. Most elementary-school children will have heard of the U.S.S.R., even if they do not comprehend Soviet ideology. Sixth-grade pupils will be able to understand many of the geographical and agricultural problems faced by Russia.¹³ The Atlantic Ocean is the source of most of the rain that falls in Russia, and the rainbearing winds tend to drop much of their moisture before reaching her fields. The so-called "steppes" running south from Moscow have between twelve and sixteen inches of rainfall during a growing season. Good as this is, it is not enough. Moreover, most of Russia's "Fertile Triangle" runs from Leningrad on the Baltic Sea and Odessa on the Black Sea eastward beyond the Urals. This heartland lies in the north and stretches a very long way east and west. About two-thirds of it is covered with coniferous forest and frozen tundra, and most of it is far from the seas and other large bodies of water that would temper the climate and provide other sources of moisture. Only the northwestern part of the "Fertile Triangle" has adequate moisture. This means that much of the land is unarable for lack of reliable sources of moisture. The Russian government is now encouraging the cultivation of this land, incurring at the same time the possibility of creating a Dust Bowl that will surpass the horror of the American dust storms of the 1930's.

This information will illustrate to children the dependence of nations on rainfall and dramatically emphasize the importance of conserving topsoil. Since the northern latitude of the U.S.S.R. places ice-free ports at a premium, the Russians may decide to press for such harbors. The fact that harvests are uncertain and a growing population is difficult to feed will bring pressure on the government to improve the methods of agriculture, to gain new farmlands from other countries, and to exploit the farms of the satellite nations.

Man will always live within a physical world and knowledge of that world—its limitations and possibilities—will always be essential. The judicious use of natural resources is not a passing need. No matter how much scientific and technical skill he may develop, man is not free to neglect or destroy the natural resources.

¹² George Kish (editor), *An Introduction to World Geography*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1956.

¹³ George B. Cressy, *How Strong Is Russia?* Syracuse, New York: Syracuse University Press, 1954.

A RESOURCE UNIT ON SOIL
CONSERVATION

Children in the elementary schools of many of our western states can find in the study of the Dust Bowl much information that will clarify and simplify their thinking, and the thinking of people in their communities, relative to such matters as the dependence of animals and men upon the soil, the causes of soil depletion, and how soil erosion may be checked.¹⁰

In the 1930's, topsoil from the Dust Bowl dimmed the sun as far east as Washington where legislators were suddenly confronted with the long-neglected problem of soil conservation. At that time, the majority of citizens were apathetic and few knew what might be done to check and to prevent a similar disaster from occurring again.

The Dust Bowl resulted from the effect of dry winds on exposed topsoil. Winds that are dry evaporate large quantities of moisture. Blowing in force, they will dry out and then sweep away as much topsoil in half a day as is carried off by water erosion in months or years. The dry winds and the drought were beyond the control of man, but they would have done far less damage to soil and crops had there been windbreaks of trees or had much of the area with least rainfall been left untilled with its original protective covering of buffalo grass. But the uninformed farmers plowed under too much of the grass, and then were taken unaware when the winds blew away the exposed, pulverized topsoil.

Not all Americans think seriously about the soil. After all, well over half Americans live in cities.¹¹ Some of the indifference may be because there is so much soil that it appears to be inexhaustible. Actually, neglect of the soil costs Americans four billion dollars every year. About three billion tons of soil materials are lost annually.

What happened in the Dust Bowl had happened before. Conservationists estimate that during our national history, wind and water have, between them, blown or washed away three of the original nine inches of topsoil. According to these estimates, a third of America's heritage in soil is gone. Six inches stand between today's standard of living and ultimate starvation. To avoid disaster in the future, man must learn to conserve the soil and to make better use of it as an agricultural resource.

Conservation is of concern in other parts of the world as well as in the United States. The influence of the physical environment on economics,

¹⁰ H. M. Martin and others, *Teachers' Guide for Conservation and Nature Study*. Salt Lake City: University of Utah Press, 1956.

¹¹ R. Penguey, "Conservation and the City Student," *American Biology Teacher*, 17:225-226, November 1955

and vast but undeveloped hydroelectric resources. Her transportation system is not sufficiently developed to allow the coal to be used for industry. Some of the rivers may be used to go inland, but they obstruct railroads and highways that parallel the coast. These are some of the points about the geography of China that elementary-school children can understand. There are many others that show how the people are affected by their physical environment.

POPULATION AND FARMLAND

People tend to settle, marry, and raise families without much thought about the distant future, or for the resources needed to support the increasing number of people. Until recently in history, people never knew enough about their physical environment to know that its resources were expendable or that usually, as population increased and as the quality of the land declined, the standard of living declined too. The health of the people suffered as the soil was depleted. Sometimes farms were subdivided with the passing generations until they became too small for efficient cultivation. At last a day came when it seemed to the people of a nation that they must acquire new lands and new resources. With no free land to exploit, a neighbor's country was coveted. Perhaps the other country was in a similar condition. Eventually, war broke out and men died that others might live a while longer. The tale is an unhappy and familiar one. The lesson is clear, however, that poor land or lack of land has led to wars in the past. The statistics are impressive.

It is impossible to estimate the number of acres of arable land per person there should be to support a population at a moderate standard of living. Experts estimate that for "mixed farming" (raising grain, corn, etc.) in a temperate climate about 1 to 1.5 acres per person is needed. In 1958, there was about 1.5 acres per person in the world, but this figure really does not mean very much because some densely populated countries have learned to cultivate their land intensively, thus producing a great deal on a small amount of land. Some countries have climates that produce larger crops and permit two crops a year.

Population problems entail much arithmetic. There are figures descriptive of the numbers of people in a country, the density of the population, figures on farm productivity and many others, which can be handled by children in the fifth and sixth grades.

As man learns to exploit his environment with skill and good sense, he increases his ability to improve living conditions for all mankind. In this effort, the schools have an important role. They must help to provide us with scientists, artists, craftsmen, intelligent consumers of the fruits of science, and citizens who will set proper goals for a scientific society.

CHINA: A RESOURCE UNIT ON THE
RESULTS OF UNSUCCESSFUL ADAPTATION

China represents a case history in the consequence of not living intelligently with the facts of nature. After the fashion of peasant rebellions the world over, the Chinese Communists fought, in part, for a redistribution of their crowded land. The practice of subdividing Chinese farmland long antedated the Communist Revolution, whose leaders merely used the subdivision and redistribution of the landlords' holdings as a slogan in order to win the support of the peasants. Land ownership had long been in process of subdivision because of the traditional custom of the equal division of family farms among the sons at a farm-owner's death.¹⁴ The Communists broke up large farms in order to parcel out bits of farmland to the individual peasant families. The move was a political one and doomed to failure because the "farms" were already small, poorly managed, and lacking in equipment. It was impossible either to produce or to market the crops with efficiency. By 1958, the Communist leaders were forced to reverse themselves. The so-called "commune system" was an attempt to substitute large farms for a system where the peasants owned many tiny plots. Some people think that the communes are an admission that the Chinese Communist policy of distributing to the peasants the large holdings of the pre-revolutionary Chinese landlords has been a failure. Others believe that the Chinese Communist leaders used their early land policy in order to attract followers, and expected to change their policy as soon as they became strongly entrenched.

The Communist political leadership had overlooked China's need for greater agricultural productivity *per farm worker*. In China, there is about .3 acres of land per person (This is about the same ratio that has been found recently in Holland.) The Chinese worked these small farms intensively, but mostly by hand. The cultivation of the land took so many farmers that an uneconomical fraction of the crop was being consumed by those who produced it. Not enough was left to feed the urban population, the industrial and other workers, and to export for capital. There were too many farms of from three to five acres in size. By doubling or tripling the size of these farms, production could be almost doubled, due to the more efficient use of labor and draught animals. Farms must be large, of course, to make efficient use of machinery.

The interdependence of various elements within an economy are particularly evident in the study of China.¹⁵ China has extensive coal deposits

¹⁴ Norton S. Ginsburg (editor), *The Pattern of Asia*. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1958, p. 168.

¹⁵ Norton Ginsburg, *The Pattern of Asia*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1958, Chapters X and XII.

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• Discussion Questions

1. Does it make sense to say that "men help to make their own physical environment?" Give three examples of environmental changes that men have helped to produce.
2. Should teaching in civics and citizenship contain units dealing with man's understanding of his place and his opportunities in the physical world? How might this be done?
3. Do you think that there are any habits, any insights, and any knowledge that you could encourage youngsters to develop that would make them more intelligent when, as adults, they are confronted with questions about conservation of resources, financial contributions for medical research, information pertaining to diet, symptoms related to cancer, and attitudes toward emotional (mental) illness?
4. Regarding the city or town where you live, did geographic location play a part in determining its location, how fast it grew, who came to live in it, and how the inhabitants earned their living?
5. Can you give two illustrations of how a knowledge of geographic "factors" could improve a current events discussion?
6. Can you describe a simple manner in which elementary-school children (in any grade you choose) might illustrate the dependence of plants upon light and moisture? the dependence of men upon plants and animals? the interdependence of plants, animals, and man?
7. What does the phrase "scientific method" mean to you? Has it a place in the elementary school? If you think that it does, can you offer one or two illustrations of an elementary-school class using scientific methods?
8. How might you organize a class in which half the pupils might not comprehend the science that the other children were enjoying?
9. Relate the factors covered in this chapter to your own science experiences in elementary school.

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The study of seeds not only opens the door to the twin sciences of botany and biology, but also arouses curiosity in and permits direct observations of man's dependence upon his environment. The problems of nutrition, soil, climate, moisture, and agricultural markets acquire a new meaning and importance.

• Life Sciences in the Elementary School

Botany, biology, and the other life sciences studied in the elementary school must be treated in terms of helping children to understand themselves and their environment *in relation to human welfare*. Biology and botany, in the past, often have been given over to a descriptive preoccupation with names and locations of plants and animal parts (see footnote 1 on following page). To know the names of the families of plants and the parts of plants has some point, but far more important in the elementary school is the *function* of the plant and the plant parts (see footnote 2 on following page). What does the stamen do? What is the function of the leaf, its "duty" in the life of the plants and its role in using sunlight, carbon dioxide, and water in the production of carbohydrates? Much of this can be eliminated for many pupils, but properly introduced, it will be within the comprehension of some of the children. Physiology is often thought of as dealing more directly with the problems of humans, while biology takes in the whole animal kingdom. Here, our emphasis is on human beings, their physiology, physical needs, and the requisites for their health (see footnote 3 on following page).

It is essential that children understand what illness is and what the study of medicine means in the treatment of illness (see footnote 4 on following page). This seems obvious enough, yet human physiology may well be the most neglected subject in the modern elementary school.

PHYSICS AND CHEMISTRY IN THE ELEMENTARY SCHOOL

Teachers at all levels today, face a serious problem in communicating with their pupils. This may be particularly true in the elementary grades.

Students have their minds on sonic barriers to be crossed by jet- or rocket-propelled aircraft. Their heroes defy gravity and move about in "time" with great disdain for cal-

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repeatedly and easily. When wood burns, that is a chemical change. The resulting gases, ashes, soot, and steam are no longer "wood." This basic distinction serves to furnish background for fundamental scientific insights into the molecular and atomic structure of any substance whether it be liquid, solid, or gas. This probing into the physical structure of things was first done successfully in chemistry. It may be, then, that for many children, *elementary* chemical analysis is a most natural first step in science education. Even in the early steps of elementary science, the paramount idea is to explore and experiment. Sometimes this means refraining from textbook explanations and instead, encouraging the children to explore ways of finding answers. There would be no science and none of its benefit, had men been willing to stop with some other person's answers. *Excellent units* can be developed in which students try to understand the reasons behind what mother does in the kitchen. Thus, a day in the kitchen will be a chance to experiment perhaps with yeast and baking powder. Mother may not be able to explain what the baking powder is and why it acts as it does. However, the teacher should be able to help the youngster understand something of the phenomenon of "cake rising." An elementary-school teacher who has not studied physics and chemistry in school should try to learn the elements of these fundamental physical sciences some other way.

STATES OF MATTER

There are numerous basic ideas that children should encounter in elementary school. They should know that matter appears in a variety of forms. Whether the subject is cooking and baking or evaporation, condensation, and freezing, the student's initial explorations will bring him to the realization that matter occurs in three forms—gaseous, solid, or liquid. This is a great discovery and may prove to be a source of genuine insight into the nature of the physical world. The initial awareness that matter has the three physical states can be followed by very simple experiments with the obvious properties of matter in each of its three forms.

Gases. It is relatively simple to catch children's interests with demonstrations about gases. Children easily learn that hot air rises; they have seen "heat waves" rising from the hot pavement in summertime. The pressure of steam on the lid of a pot has offered them visual demonstration that gas expands when heated. From these beginnings, experiments or illustrations may be used to acquaint children with other properties of gas, particularly the practical applications. For example, they learn that the tires on the family car may explode if they have been over-inflated and are then driven fast over hot summer roads.

endars and clocks. From the first grade on, many of the children take pride in knowing about internal combustion engines and elementary electronics. Even if the girls are not encouraged to bone up on compression ratio, their little brothers will soon know a great deal about it. Although girls are presently conditioned to show a lack of interest in things scientific, the average housewife each day operates more machinery, more intricate machinery, than does the average husband. Moreover, she knows a good deal more about machines than she "lets on." It must be admitted that today a goodly section of the pupils in the elementary schools are fairly well acquainted with science. All this poses a problem of communication between teacher and pupils. A fair grasp of elementary physics and chemistry is a "must" for modern teachers in the grades beyond the primary.

Physics and chemistry are so inclusive that teachers sometimes find it hard to know where to start. We know that children wonder about the nature of their world. They want to know about the nature of reality. What is real?

STARTING AT HOME IN THE ANALYSIS OF MATTER

Every student has a chemistry laboratory in his home. His mother's kitchen and bathroom shelves are stocked with chemicals: salt, vinegar, caustic soda, baking soda, baking powder, household ammonia, cream of tartar, lye, boric acid, iodine, and alcohol to name a few. At home he learns any number of scientific facts; e.g., water is an excellent solvent but lemon juice is a more effective bleach when stains are of a particular type. He will learn much more from the great laboratory of the world about him if the school pulls the resources of the home and community into the classroom.

A basic fact of science that a child can observe is the difference between physical and chemical change. When water freezes, that is a physical change. It can be turned again from ice to water and from water to ice

¹ J. Thronberry, "Let's Put Some Life into the Study of Life," *Peabody Journal of Education*, 33:351-352, May 1956.

² E. B. Kurtz, Jr., "Botany, Not Posey Picking," *American Biology Teacher*, 20:281-282, December 1958.

³ V. Rushworth, "Recommendations on the Problems of Teaching Biology," *American Biology Teacher*, 18:48-62, January 1956.

⁴ Jessie F. Williams, *Healthful Living Based on the Essentials of Physiology*. New York: The MacMillan Company, 1957.

Peter P. Chase, *Your Wonderful Body*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1957.

Hyman Ruchlis, *What Makes Me Tick?* Irvington-on-Hudson, New York: Harvey House, 1957.

cannot be compressed as can gases. If the study of gases is undertaken first, children can get a better idea of liquids.

Solids. Once the molecular composition of gases and liquids has been grasped, the nature of solids can be studied. This, also, is no simple concept. It was not until late in the nineteenth century that scientists made any significant headway in describing, first, the molecular structure of matter and, then, its atomic composition. Until that time all manner of theories had been advanced; a crude form of atomism had been most popular.⁶ Now, of course, more is known about the structure and nature of matter than can be learned in one lifetime.

We need not expect that pupils in the elementary school will be able to understand the scientific analysis of matter with which scientists in this century are familiar. However, such simple experiments as the controlled burning of certain solids shows the change of solids into gaseous and liquid states. Through the simple consideration of gases, liquids, and solids, pupils will gain some background for further thought. They will have avoided some of the blind spots and misconceptions that might later handicap their thinking.

THE CHEMICAL INDUSTRY

Any drugstore will have "flowers of sulfur." Sulfur is a common element. It is a perfect vehicle for the child to use in the study of the synthesis of matter, being both harmless and inexpensive. Sulfur, the children should know, is indispensable in industry. It is the key element in sulfuric acid, without which the metal industry, as we know it today, would be greatly changed. It is used in the manufacture of the dynamite that miners use for extracting ore and coal from the earth. It is used in refining oil and it is important to the textile industry.

Long ago, alchemists found that sulfur, when burned over water, caused the water to turn acid and that if the burning took place in the presence of saltpeter, the acid became very strong. This was not the product of *analytic, scientific research, however. It was an accidental discovery, incidental to the alchemist's search for a "philosopher's stone" that would change such "base" metals as lead into gold. The modern methods by which sulfuric acid of great strength is synthesized cheaply depend upon careful analysis of the properties of sulfur and upon experimentation conducted in the light of this knowledge.* Many simple and constructive experiments can be worked in the classroom with sulfur.

⁶ The earlier concept of the atom, actually not significantly advanced over the notions held before the birth of Christ by the Greek philosophers, Empedocles and Democritus, was that matter was divisible into bits, themselves indivisible and without components.

The nature of gas is an excellent approach to the concept of molecules, which, in turn, leads into the realm of the atomic and sub-atomic. Gas can be conceived as "material," as matter. Let the children think about an odorless, colorless gas. Despite its lack of color or odor, they can detect its presence in many ways. Young children may make a start with balloons. How far they push their inquiry will depend upon their maturity and acuity. As the class discusses what is inside the balloon to give it shape, the suggestion is almost certain to be made that it is awfully "thin," and "spread out." Being "spread out" suggests that the gas particles are not as closely spaced and have more freedom to move about than do the particles in liquids or solids. Should the children discover that gases may be compressed and expanded, the concept of molecular motion will become more meaningful.⁵ The number of good discussions are greatly increased by having a store of science books and pamphlets in the classroom library. Alert teachers direct the attention of those with scientific interests to such reading.

There is danger in over-simplification. Pupils must understand that atoms are not the same kind of material as the material things that they see. The atoms in a piece of wood do not have the temperature, color, or density of wood. If the student really conceives that the wood or steel in his desk contains things—very, very tiny things—called molecules and atoms, both of which are quite unlike the wood or steel in the desk, he will have avoided one of the pitfalls of common sense realism and, it can be hoped, will have learned that things are not always as they are perceived.

The expansion and contraction of gases. Capable pupils should have opportunity to learn that the expansion or contraction of gas is related to the speed of the particles that make up the gas. Some will be able to understand that there is a relationship between molecular motion, heat, and work (energy that is used to do a job). Thus, they grasp the principle of the steam engine. The steam engine illustrates for children the usefulness of scientific knowledge.

Liquids. Most elementary-school pupils will not learn as much about liquid forms as they do about gases. It is more difficult to devise simple experiences that lead children to understand the basic characteristics of liquids. It is more of a problem to suggest the molecular structure of a liquid. For one thing, the effect of pressure on gas—something which makes it possible to guess that gas is made up of particles spread thinly over a lot of space—is much easier to demonstrate than the effect of pressure on liquids. Children in elementary school can learn that neither liquids nor gases assume rigid forms, that both flow about easily, but that liquids

⁵ In 1811, Avogadro announced his principle of gas volume. Equal volumes of gases, measured at the same temperature and under equal pressure, possessed an equal number of molecules.

pendent of Chile's nitrates. Thus, Germany was able to fight on in World War I to the bitter end.

Haber was a distinguished scientist and came to be regarded as a national hero. Years later, when Hitler came to power, Haber was working in Berlin's famous Kaiser Wilhelm Institute. He was a Jew. Prejudice has no respect for intelligence, but science lives only as long as intelligence is unfettered. Haber and his genius were lost to Germany. Nor was his loss the only one that Germany suffered from the same cause. Einstein left Germany,⁸ as did Leitner and Hahn. These three (together with Fermi, who left fascist Italy) were key people in the American experiments that led to the creation of the atomic bomb.

• A New Age⁹

The explosion of the atomic bomb toward the end of World War II dramatized the fact that mankind had entered the atomic age. The children in our elementary schools must live in that age, but they cannot live successfully without comprehending some of its fundamental concepts. It is essential that children be introduced to the background and problems of the atomic age, just as they have been introduced to reading, geography, history, hygiene, and other subjects. Knowledge about the atomic age is crucial knowledge. Teachers, publishers, and everyone concerned with curriculum development will work together in the next decade to develop and expand science education at the elementary level.

INTRODUCTION TO TEACHING ABOUT THE ATOM

In introducing his class to the atom, one sixth-grade teacher made use of models of the hydrogen and of the helium atoms. These could have been built in class, but the teacher in question obtained ready-made models. There are over ninety distinct types of atoms. A model could have been built or obtained for each type, but there was little reason for having more than two models. These were sufficient to show the nucleus and the protons and neutrons. Other constituents of the nucleus need not be represented for an elementary-school class.

In the model he used, the proton, which is the heaviest portion of the atomic nucleus, was colored black. He told the pupils that the proton was the heaviest portion of the nucleus, that it had most of the mass or weight

⁸ Mae B. Freeman, *The Story of Albert Einstein* New York: Random House, 1958.

⁹ Glenn T. Seaborg and Evans G. Allens, *Elements of the Universe*. New York: E. P. Dutton and Company, Inc., 1958.

erector sets, electric trains, and science libraries and live in homes where the family sits down together to figure things out, trying to take advantage of all available evidence. Others are surrounded by superstition, with little experience in getting "why" and "how" answers. Throughout the elementary years, the schools try to provide science experiences that will supplement those the children have already had.

• Overview of Science in the Elementary School

The impact of the new age of science has pointed up the need for more scientists and, equally important, for widely diffused knowledge among all people of the nature and potentialities of science. An early introduction to science and the nature of scientific thinking is important in trying to *understand the world in which we live*. A major point of emphasis is the *interdependence in nature between man and his environment*. Interdependence is to be seen in relation to various parts of the world and to various types of living conditions. The effects of geography (the environment affecting man) and of scientific discoveries (man's use of the environment) on history are also cases in point. Many scientific problems are raised by the growth in the population of the world, particularly with regard to conservation and health.

Various aspects of human welfare are related to the things we learn in botany, biology, and physiology. Scientific attitudes toward illness and disease are contrasted with superstition. Some aspects of elementary physics and chemistry are discussed. Solids, liquids, and gases are differentiated, and even the structure of atoms is suggested as a possibility for some pupils. The broad implications of science are pointed out on many occasions.

In the process of establishing the ability to observe carefully, to think scientifically, to generalize carefully, and to face realistically the problems that man must face in his physical environment, it is necessary that many specific bits of knowledge be learned, many skills developed, and many attitudes and ideals established.

In geography, children learn to regard the earth as a huge sphere or globe on the surface of which man lives. They learn to think of the atmosphere as surrounding the earth. They know that water makes up much more of the surface of the earth than does land. They learn that man's culture is related to the physical conditions under which he lives, and that the recent increase in man's scientific knowledge will thus greatly affect his culture. He understands that man's environment has recently become almost worldwide, due to improvements in transportation and communication.

of the atom. The children had to imagine how a proton, actually a charge of electricity, could be said to have mass or weight. A few simple experiments with electric charges helped to get across the idea of the non-material nature of a proton. Clearly, the youngsters had difficulty understanding how all this could really be. They did learn, however, that things are not always what they seem to be on the surface; that mass and energy may not be entirely different. Many children readily adopt the necessary vocabulary to talk about science. Sometimes it seems that children are more able than adults to use a vocabulary that is not rooted in sense experience.

When the teacher explained the structure of atoms, the pupils did not seem to find it unnatural that though the atom was invisible, it was possible to "picture" it in model form. They accepted the idea that scientists had reason to believe that there was a nucleus and, in the instance of the helium atom, that the nucleus was made up of two protons and two neutrons. Circling the nucleus were the electrons. There were as many electrons, which are charges of "negative" electricity, as there were protons, charges of "positive" electricity. In the model of the hydrogen atom there was one proton, no neutron, and one electron. In the model of the helium atom there were two protons in the nucleus, two neutrons, and two electrons. The model had the electrons circling the nucleus in orbits.

In this class, some of the children had heard of uranium 238. With his model of a simple atom as background and with the use of the periodic table, the teacher showed how complicated the uranium atom is. He showed that it has 92 protons, 92 electrons, and 146 neutrons. The number 238 is the sum of the number of neutrons and protons. The children were interested in the part uranium 238 had played in the story of atomic fission. It was surprising to see that they could perceive that the heavy atoms were good targets for atomic bombardment and lent themselves to fission or splitting. The idea of unstable heavy atoms was quite within their ken.

The members of the class were challenged with the exciting idea that they live in a new age where the control of the environment offers opportunities never before presented to men. They learned of the potential energy of atoms to be used for progress or for destruction.

• Children's Background Is Important

The rate at which school children progress in science is influenced by many conditions outside the school—such as the geographic location of the community, the nature and number of local businesses and industries, and the family socio-economic status. Some children have chemistry sets,

forests, and agriculture. They study about the difference in seasons between northern and southern hemispheres, and how and why the position of the sun in the sky changes. They find out about a few of the many uses for land. They read about and discuss the three big oceans. They begin to understand more about maps and globes. They begin, too, to learn about electricity. At about the fourth grade, children may study about what happens to water when it freezes.

As children grow older, they develop greater ability to think independently and to seek answers. They are encouraged to experiment at school. They learn to observe carefully and to experiment carefully in simple ways. They begin to learn that in an experiment there must be certain controls if there are to be any good conclusions.

In the fourth, fifth, and sixth grades, children learn to use words such as: peninsula, isthmus, plateau, canyon, delta, gulf, strait, cape, bay, equinox, latitude, longitude, meridian, polar, Arctic Circle, Tropic of Cancer and Tropic of Capricorn, volcanoes, lava, glacier, morain, timber line, orbit, the Orient, petroleum, torrid or low latitudes, middle latitudes, coral reefs, gulf stream, hurricanes, astrology, magic, superstition, science, atoms, molecules, synthetics, chemistry, planets, catalysts, sulfur, and so on. They also learn the names of the common local plants and animals and some of their characteristics. They learn about insect and animal pests. They study plants, including trees, that provide beauty as well as those that have more "practical" uses.

By the end of the sixth grade, average children should have developed much freedom in raising questions and many skills in finding answers. They ask questions about health, growth, safety, disease, reproduction, natural phenomena, and recent scientific developments. They search for reliable answers. They try to keep open minds and to look at all the available evidence. They look for causes and sequences in development. Teachers help them to generalize about things that they observe such as: "Living things reproduce their kind," and "Climate is not dependent on latitude alone." They are encouraged to interview people who may know some of the answers. They pay great attention to safety in all experimentation. They also learn to be cautious whenever they are dealing with "unknowns," in school or out. They are cautious around chemicals that may be explosive. They avoid unknown weeds and plants that may be noxious or poisonous. They know that there are dangers in such things as dynamite caps and radium pellets. Some of the children will learn the fundamentals of elementary lifesaving and water safety. They are informed about the effects of alcohol and drugs on the human body. They understand fatigue and the need for rest. They have much information about community health. They know that there are changes in the rate and

Science education starts when children enter school. In the lower three grades, children learn to divide the world into "hemispheres," and to distinguish on a map the water and land areas. They find out what and where the north and south poles are and how to determine direction on the map. They learn something about the path of the sun in relation to the earth. They learn what the equator is. They know that the earth rotates. They should have opportunities to know the meaning, in simple sentences, of words such as continents, islands, mountains, hills, plains, oceans, rivers, lakes, tides, climates, and seasons. They know something of the effect of seasons on the way people live, dress, eat, and plant their crops.

At the end of three grades, an average child falls short of having learned all that the schools may want him to learn. He has, however, a beginning skill in reading maps, locating places, and planning real or imaginary trips. He has learned a little about simple machines—pulleys, wheels, inclined planes, and so forth. Early in school, children are told little stories about the great scientists of the past. Some young children are able to give simple explanations of the cause of dew or rainfall.

In the lower grades, the children learn to use rulers and such other simple measuring devices (perhaps liquid measures) as are available in the school. They learn how to operate the radio and television sets if available. They get early instruction in fire safety, with intelligent discussions of the dangers from smoke and gas.

As early as possible (depending somewhat on library facilities and community resources) children should be introduced to the possibilities of making collections of various kinds. Children are to be encouraged to bring science materials to school to share with others. Ice on a humid day may be used to make a jar "sweat" or a bunsen burner may make water boil. These are simple opportunities for very young children to seek explanations that differentiate between fact and fancy. An aquarium or terrarium will provide many problems to be investigated. The care of pets can be profitable, too.

Children begin early to learn about simple preventive medications. They learn that there are differences in strength and size and rate of growth among children. They learn basic health rules regarding rest, sleep, proper food, and clean toilet habits.

As children get into grades three and four of the elementary school, they begin to learn about the seven continents. They learn about the value of fertile plains and of mineral deposits. They learn about deserts and mountains and other relatively nonproductive areas. They learn that nonproductive areas sometimes become productive because of the new demand for things that were formerly unwanted. They learn about the climatic effect of large bodies of water and their effect on rainfall, rivers and streams,

when the teacher tries to repeat the same unit the next term with another class. Why might this be true? How much might be used over? What are the dangers?

10. Children should be encouraged to do much reading in science. How can this be done? Can you give specific instances?

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nature of physical growth with the onset of puberty. They know some reliable information about human reproduction.

Children have some information about weather bureaus, government efforts to insure pure foods and drugs, the services of county agents, and so on. They have rather well-developed skills in the reading of many kinds of maps. They seek to satisfy their curiosity about the homes, customs, occupations, and other environmental influences in widely different areas of the world. They have knowledge about the simple scientific principles of sound, light, heat, electricity, magnetism, and diet.

As a result of their experiences in elementary school, children should have an enlarged conception of science. They have learned to approach problems systematically and in a mentally healthy manner. All of these hopes and expectations, of course, must be modified or expanded in terms of the abilities and needs of the children involved.

• Discussion Questions

1. Do you think that the children in your fifth- or sixth-grade class could become interested in the chemical industry, in the making of synthetics? What synthetic products does your classroom contain? Is there a chemical industry in your community? Is there a pharmacist? Could you take your class to observe "chemistry at work" in a factory, on a farm using chemical feeds and fertilizers, in a pharmacy?
2. Ask several elementary school children for their definitions of the word "matter." How much, according to the definition, do the children know about "matter"? Could you make "matter" (and "energy" and "force") meaningful to those children who do not seem to make sense of the term? How would you go about it? How much do they know already?
3. Might it help in understanding the physical and chemical composition of matter to distinguish between its liquid, gaseous, and solid states?
4. Can you give two examples of the way the questions of a youngster in the second, fourth, and sixth grades can lead into scientific study?
5. Can you give some examples of where over-simplification has impeded the development of scientific knowledge?
6. Have you ever read a book on the history of science? On the nature of scientific method?
7. Discuss using science as an instrument for teaching good human relations and respect for human ability, regardless of sex, race, religion, or nationality.
8. Many children conceive of science in terms of the more lurid type of science fiction that they read. What can be done to show children the interest and excitement of laboratory research?
9. It has been said that it is wonderful when an elementary class has an excellent developmental activity unit on science, but that it is tragic

"Formal" art instruction often begins in the first grade. Beginners mainly need encouragement and a variety of materials. Their attention span is short and their skills undeveloped. As children are encouraged to enjoy their own creative efforts, they begin to develop appreciation and standards of quality and beauty.

Education in the fine and applied arts has changed greatly in recent years. Many of the changes are developing slowly. The big change has been away from a general, prescribed program and in the direction of individualized programs, adjusted to the needs of various children. This kind of teaching depends upon a knowledge of child growth and development, realization of the wide range of individual differences, and recognition of the potential creativeness of children. All of the arts appeal to children—music, rhythms, painting, drawing, dramatics, poetry, literature, and all the other fine and practical arts and crafts. Art has been defined in many ways, but there is a good dictionary definition that fits our use of the term. Art is an occupation having to do with the theory or practice of taste in the expression of beauty in form, color, sound, speech, or movement. According to this definition, the creation by man of beauty of any kind, any place, or for any purpose is art. There is left, then, the definition of beauty. Some would say that beauty is the grace or property of a thing that satisfies the eye, the ear, the intellect, the moral sense, or the aesthetic sense. Some say that beauty is a composition of form and color that delights the beholder. Others say that beauty is morality and usefulness. A concluding definition is that beauty is a pleasant adaptation of things to our sensibilities. Let us see what this means.

- Sensibility

The cultivation of sensibility is an essential part of elementary education. Before we can discuss any of the arts, it is necessary to discuss briefly the theory of artistic expression. Sensibility means "the ability to both perceive and express oneself." The principal reasons for introducing children to experience in art are (1) that they may experience life more fully and (2) that they may express themselves with greater personal satisfaction. These twin aims lead the discussion of *perception* and *expression*. The lat-



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It is a matter of common knowledge that children possess remarkable powers of observation, as well as boundless curiosity, both of which are the basis for adult sensibility.

EXPRESSION OR RESPONSE

A good deal of expressive and responsive experience in the elementary school is involved in performance, in making and doing things. One reason for encouraging children's expression is that it affords them pleasure. There are others and not the least is that repeated opportunities for free response during childhood may be expected to prevent many of the destructive inhibitions in adulthood. The grownup who is strongly inhibited ("shy," we say) finds it difficult to be a person of sensibility. He is called "reserved" and sometimes "cold." Coldness can be an unhappy quality.

HOW MATERIALS OR MEDIA LINK PERCEPTION AND RESPONSE

The school should provide the children with a rich and varied aesthetic environment. This will increase the opportunities for perceiving. Perception furnishes the stimuli for moods and feelings that can be portrayed through one or another of the art media. Skillful perception results in an intimate acquaintance with the characteristics of things. The elementary-school teacher must bring children to perceive the attributes and, at the same time, the potentialities (for creativity) of any number of materials and media. This perception of qualities and of potentialities is a form of appreciation too often neglected in schools. One hears of much art and music appreciation, but the appreciation is of the finished work. The pupil who is being taught to be appreciative should learn *why* the artist used the materials that he did and why *those* materials were appropriate for what he wished to do. Consumers who lack such understanding may fail to demand manufactured artifacts that are good examples of what can be done with the materials of which they are made. Despite initial skillful perception, it takes repeated experience and training to learn the appropriate use of materials.

Children in the elementary school should learn about the possibilities and the limitations of materials in order that they may employ them appropriately for what it is they wish to create. De Francesco is specially clear on this point. Writing of media, specifically of clay, he says:

"Clay, lacking tensile strength, should not be made to look like or function like metal; work in wood should make use of the grain and texture of that material; metal, being pliable, may be bent, twisted, or flattened. It is a mark of good craftsmanship to employ only those decorative treatments that become one with the material rather than ornamental of its surface."²

² Italo L. De Francesco, *Art Education: Its Means and Ends*. New York: Harper and Brothers, Publishers, 1938, p. 455

ter in one way or another is a *response* to experience. We believe that it is profitable to treat perception and expression as complementary. An individual, we hold, should be able both to perceive and to express himself.

To justify an esteem for sensibility, it is only necessary to recall someone who is lacking in sensibility (or sensitivity, which is almost the same word). An insensitive man is said to have a "thick skin." Nothing reaches him, he is not touched by his experience. For centuries, it has been said that the ability to be moved, to respond, to wish for expression of feelings and ideas, is the essence of being human.

Children must be allowed and encouraged to develop honesty and individuality in expression. It would be difficult to find a single sample of literature on aesthetics that urges teachers to turn away from originality, spontaneity, or naturalness when it occurs in the expressions of their pupils. All of those writing on the subject urge teachers to be very cautious about suggesting to youngsters what is an "appropriate" aesthetic response. The safe limits that may be set for such suggestions depend somewhat on the aesthetic area involved. In the field of verbal expression, elementary-school teachers are admonished not to use models for children's verse or any other form of expression. De Francesco is typical and outspoken about arts and crafts:

"At no time should patterns, copied designs, imitative ornamentation, and other common stereotypes be permitted to interfere with the originality of the pupil. In planning craft activities, teachers and pupils should be aware from the outset of the nature and potentialities of the material; they should be able to visualize the end product and carry it out with fullest integrity."¹

PERCEPTION

In the cultivation of sensibility, elementary-school teachers will do well to emphasize practice in simple perception. It goes without saying that a person of sensibility becomes so because he is able to sense or perceive. This ability must be practiced to be keen. Day after day, the elementary teacher should draw to the attention of his pupils the shapes, colors, rhythms, and textures that surround him. It seems proper to expect this coaching from the teacher of art, but all teachers should help in the process. Reid Hastie has done well in describing what can be accomplished: "Through art experience," Hastie writes, "we hope that the child will look at and 'see' with all his senses the world in which he lives; that he will become interested in and aware of the art that exists in his surroundings; the things of nature and of man."²

¹ Italo L. De Francesco, *Art Education: Its Means and Ends*. New York: Harper and Brothers, Publishers, 1958, p. 455.

² Reid Hastie, "Art Education: Its Function in Elementary Schools," *The Instructor*, 67:95, April 1958.

"Design is the organizing of seemingly unrelated elements into an integrated, orderly whole for both functional and aesthetic purposes . . . through an awareness of this meaning of design the child will see beyond the surface of things and sense the order in the structure of crystals, the organization of the atom, the arrangement of cells in a honeycomb, the formation of sea shells, the branches growing from the trunk of a tree, the pattern of plowed and planted fields."⁴

EMPHASIZE ORIGINALITY AND CREATIVITY

Some critics⁵ have asserted that the people of the United States, particularly the students in our schools, are lacking in originality. This is difficult to prove—indeed, there is every reason to believe that recent increases in interest in painting, writing, and good music have been accompanied by increases in quality and in originality.⁶ This should give the schools no reason to relax their efforts. The work of Viktor Lowenfeld leaves the elementary-school teacher in no doubt as to the continued importance of fostering originality. Lowenfeld has contributed generously and well to our knowledge of what creativity may be. He assures teachers that fostering creativeness in the arts well may be a means of building creativity in all thinking, even in the sciences, and that creativeness in both art and science have many characteristics in common.⁷

It is significant that *sensitivity*, certainly stressed in this chapter, appears to be an important characteristic of creative people, whether they be professionals in art or in science. Lowenfeld's definition of creativity, or his description of "motivating sensibility" may be familiar. It makes clear that the elementary school cannot afford to neglect art in shaping the curriculum.

⁴ Reid Hastie, "Art Education: Its Function in Elementary Schools," *The Instructor*, 67:95, April 1958. There are a number of excellent studies on the nature of design, whether of "practical" design found in commercial art and industrial design, or of design in the fine arts. Among them are: R. Arnheim, *Art and Visual Perception*, Berkeley, California: University of California Press, 1954. Maitland Graves, *The Art of Color and Design*, New York: McGraw-Hill Book Company, 1951. George Nelson, *Problem of Design*, New York: Wittenborn and Company, 1957. Eliel Saarinen, *Search for Form*, New York: Reinhold Publishing Corporation, 1947-1948. Wold Strache, *Forms and Patterns in Nature*, New York: Pantheon Books, Inc., 1956.

⁵ For example, David Riesman, *The Lonely Crowd*, New Haven: Yale University Press, 1950.

⁶ Margaret Hamilton Erdt, *Teaching Art in the Elementary School*, New York: Rinehart and Company, Inc., 1955, p. 232.

⁷ Viktor Lowenfeld, "Art for Teacher Education in This Time," a paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education, The Conrad Hilton Hotel, Chicago, Illinois, February 21, 1958. The studies on creativity in science to which Lowenfeld makes reference were those published by J. P. Guilford, R. C. Wilson, and P. R. A. Christensen under the title, *Factor Analysis Study of Creative Thinking*, Report from the Psychology Laboratory, No. 3, Los Angeles: University of Southern California, 1952.

KEEP IT SIMPLE

When a child responds to his perceptions, he is being creative. He starts with simple, everyday expressions, reacting to the commonplace around him—to the light, to darkness, and to sounds. He can be shown an apple and find that there is more to it than its obvious characteristics of taste, color, and nutritional value. It has shape, proportion, shadow, and position in relation to other things. As a result of being introduced to these "ideas" the child may develop a sense of proportion or a perception of contrast. As he matures, his perceptions may sharpen and his responses broaden. If so, he is becoming an individual with imagination, with feeling, with taste.

Achievement in creative accomplishments does not require constant immersion in "works of art." For example, a poet does not necessarily seek inspiration in isolation from everyday life. For children, likewise, a rich and varied aesthetic environment is not necessarily an exclusive and expensive one. The schools can help children to find gratification in simple things. Children need more opportunities to find so simple a beauty as the sound of rainfall or the bright color of an apple.

A child of kindergarten age probably can see, feel, and hear much more freely than a child in the fifth grade. This may be because he has not learned yet to ignore the things that have no immediate practical use. The frost on a window may be anything for the younger child—a skyscraper, a balloon, or a stalk of celery. The other child will name a much more "likely" object. His imagination has been circumscribed by experience and by the accumulation of the meanings he and all his fellows have in common.

Constantly, in all their school activities, children have some practice with perception and response, but in the various arts, they seriously consider the design of their responses. As a noun, design or *pattern* refers to the *form* of something whether found in nature or man-made. A painting is a design or arrangement of colors, hues, and a balance of colored space. There is a design to a poem. It is perceived in the rhythm of the language, in the meter, the imagery, and the choice and arrangement of the words.

When used as a verb, "to design" means to arrange colors, symbols, textures, materials, words, or sounds in an effort to affect people or to express an artist's mood or thought. In either case, with or without an audience in mind, "to design" is to have a purpose, to intend, or to plan. Manifestly, design is crippled if the designer has only a small stock of imagery and little practice in the use of imagery.

In Reid Hastie's discussion of elementary-school art experience, the role of perception clearly is linked with design. Design, for Hastie, "refers to the creating of an over-all plan or organization."

and variety of experiences stand out in obvious contrast with the sparseness of the drawing-decorating of the nineteenth and early twentieth centuries.

"Now the child is encouraged to experiment with simple print processes using sticks, inner tubes, cardboard, potatoes, linoleum, and wood. He does spatter painting, stencilling, and screen printing. He models and carves with clay, wood, papier maché, firebrick, soap, pumice, plaster, plastic, wire, thin sheets of metal and a variety of mixtures of cornstarch, salt and flour . . . The child will design and construct stage settings and costumes for puppet shows and television and auditorium programs. He works on problems related to community planning, landscaping, and gardening, and designs and builds a house, a store, an airport, or a pioneer village. He makes decorations and ornaments for special events to brighten his classroom, the halls, or the cafeteria. He designs, constructs, and remodels furniture. In some classrooms you will find contemporary revivals of the traditional crafts of sewing and embroidery, now called "creative stitchery," of weaving, the making of mosaics, and of bookbinding, braiding, and basketry."¹⁰

A great abundance of media might be simply that and nothing more. But boys and girls, in the best elementary schools, are expected to design, to organize and present information (through exhibits, displays, posters, bulletin-board arrangements, charts, scale models, and relief maps), and of course, to develop a whole host of techniques learned in working with various materials or media. Teachers try to get the children to think in terms of design and execution, by giving them practice in the evaluation of art.

• A Developmental Program in the Graphic Arts

Those who have studied what children do in the arts at various ages agree that there is a factor of "readiness" quite like the readiness found in development of the ability to read. A developmental art program contains activities appropriate to stages of maturity and experience.¹¹

ON COMING TO SCHOOL

Wickiser reminds us that the first contact of many children with "formal" art comes when they enter the first grade.¹² Not all children will have had

¹⁰ Reid Hastie, "Art Education: Its Function in Elementary Schools," *The Instructor*, 67:95, April 1958.

¹¹ Margaret Hamilton Erdt, *Teaching Art in the Elementary School*. New York: Rinehart and Company, Inc., 1955, p. 212.

¹² Ralph L. Wickiser has contributed several full chapters to the literature on aspects of children's development within the total areas of art activities. The elementary-school teacher is urged to read in his *An Introduction to Art Education*, Yonkers-on-Hudson: World Book Company, 1957. Chapter 11, "Understanding the Child and Adolescent"; Chapter 12, "The Art Experience in Nursery School, Kindergarten, and Lower Elementary School"; Chapter 13, "The Art Experience in the Upper-Elementary School."

"... when we speak of promoting or motivating sensibility in art education we . . . refer to the refinement of our sensibilities, so that we learn to use our eyes not only for seeing but for observing, our ears not only for hearing but for listening, and our hands not only for touching but for feeling . . . We in the arts not only promote this important attribute of creativity (refinement of our senses) by continuously motivating our children and students in their responses to environment, but also in their sensitivities to different materials and media. To react sensitively to media means to identify with them, to learn the behavior of materials and media to such an extent that we can almost predict what two colors "will do" when they merge, how wood will appear when it is all polished up "showing its best grain."⁸

GROWTH OF FINE ARTS IN THE CURRICULUM

Except for a short time in ancient Greece, the fine arts played a small part in the curriculum until the eighteenth and nineteenth centuries. Then the growth of nationalism and the industrial revolution gave point to the need for design, and the romanticism of the time encouraged Rousseau, Froebel, and Pestalozzi to encourage the child to perceive and to respond freely and creatively. The industrial revolution made it possible to produce beautiful objects in quantity at low prices and created a great middle class with the leisure and the means to buy and enjoy them. The first arts courses came in as adjuncts to more "practical" subjects. Drawing, at first, was an extension of handwriting and of geometry; and modelling was allied to geography. Singing came into the curriculum in the nineteenth century, and the dance and the instrumental music came in the twentieth century. By 1900, American cities were employing supervisors in the fine arts, and with the later rise of progressive education even more attention was given it. Recently, however, there has been a revolution in fine arts instruction.⁹

Reid Hastie has written a paragraph that outlines what a modern elementary school program in the arts and crafts has come to be. The wealth

⁸ Viktor Lowenfeld, "Art for Teacher Education in This Time," a paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education, The Conrad Hilton Hotel, Chicago, Illinois, February 21, 1958.

⁹ Excellent examples of the beginnings of revolution in art education can be seen in the publications of Hughes Mearns, perhaps the first to break away from conventional practices in the teaching of prose and poetry. See his two books, *Creative Youth*. New York: Doubleday, Page and Company, 1925, and *Creative Power*. New York: Doubleday, Doran and Company, Inc., 1929. Another revealing source of information on the new movements in art education can be seen in Margaret Naumberg, *The Child and the World*. New York: Harcourt, Brace and Company, 1928, Chapter 3, "The Artist and the Director." The best summary description of the new view of art experience in the elementary school of the 1920's and 1930's (those called "progressive") is to be found in Harold Rugg and Ann Shumaker, *The Child-Centered School*. Yonkers-on-Hudson: World Book Company, 1928, Chapter XI-XVIII.

shell. But to create imagery that suggests fear, for example, the student will need to practice those shapes, forms, textures, shadings, sounds and other qualities that can be used to express or suggest feelings.

In this process of abstracting, the end-in-view is to become skillful in making use of imagery so that the mood intended by the youthful artist is the mood communicated to the spectator. Choosing the media and creating the design may require the assistance of the teacher. Visits to art galleries to study designs that use a broad range of techniques certainly will be useful to the more gifted children.

At the time that a youngster is ready for junior high school, he should have much knowledge and insight as a result of his experiences in school. He should have some definite ideas about the essential features of good pictures, appropriate clothing, beautiful architecture, and of good arrangement in general. He should know that the arts have influenced and been influenced by man's history. He should know what perspective is and have some experiences with how to use it. He should have increased his knowledge of color to the point where he knows some of the primary, secondary, and intermediate colors and how to combine them. He should know how, in the graphic arts, to use shadow to express depth. He should have a critical but open attitude toward experimental artistic productions.

EVALUATION IN ART ACTIVITIES

The critical evaluation of artistic expression is more to the point for older pupils than for younger. Younger children need evaluation less in the sense of criticism and more in the form of help.¹⁶ The purpose of evaluation is to help the student achieve what he wishes to achieve. It is not to foist on him the teacher's standard of good taste or his preference for this or that color or texture or example of color balance, or rhythm of colors used. De Francesco has put the matter succinctly: "The obligation of teaching is to present opportunities, stimulate interest, encourage evaluation, and hope that genuine enjoyment of what is good may result."¹⁷

• Elementary School Experience with Music

"Reading music" was once the major goal of music education in the elementary school.¹⁸ It remains important today for those who are able to

¹⁶ Margaret Hamilton Erdt, *Teaching Art in the Elementary School*. New York: Rinehart and Company, Inc., 1955, p. 153.

¹⁷ Italo L. De Francesco, *Art Education: Its Means and Ends*. New York: Harper and Brothers, Publishers, 1958, p. 14.

¹⁸ Lillian Mohr Fox and L. Thomas Hopkins, *Creative School Music*. New York: Silver Burdett Company, 1936, p. 43.

a wide variety of pre-school experience with art. He believes that in their first contact with art activities under the guidance of the school, the children need little more than materials and encouragement.¹³ The early art work of children shows their interest in their possessions, in their families, and as they grow older, in their experiences with other people. There is seemingly an endless variety of materials with which the children can work. Certainly the child in the first three or four grades should take joy in all the arts, and should begin to develop some judgment of quality and some appreciation for beauty.¹⁴ He should know the common colors and understand that color hues and tones can be modified by mixing or applying one over the other. He should be able to draw and paint with some realism and attention to detail, and the satisfaction this gives to him is more important than the skill itself. At the end of the third grade, the child can create simple designs, and use paint, water colors, finger paint and pencils to draw trees, animals and representations of human figures. He can mount bits of art with some feeling for margins. He is able to recognize some of the world's great paintings and knows the names of various kinds of pictures such as landscapes, portraits, imaginary people, animals, and story-telling. He often seeks opportunities to look at beautiful pictures.

ART EXPERIENCE IN THE INTERMEDIATE GRADES

When Wickiser turns to the intermediate grades he finds the boys and girls capable of attending for a longer time, capable of working with greater independence and confidence.¹⁵ They are learning to observe keenly and, at the same time, to be free in expressing their feelings. In training for careful observation, children report accurately on the characteristics of the things observed. In expressing feelings, however, such accurate reporting is altogether impossible and probably unnecessary. It is hard to determine what is appropriate in preparing to express our dreams, our hopes, and our fears. These are areas where we are just beginning to learn how to teach. We know something about how to teach a child to really see the contour, color, shape and structure of such things as tree bark or a turtle's

¹³ "The teacher's function is to stimulate the child, by individual or group discussion, to become aware of art qualities in his experience which suggest imagery for painting and drawing. By having the child think of his experiences and imaginings in terms of color, movement, texture, they will become more vivid to him, thus increasing his awareness and aesthetic sensitivity." Ralph Wickiser, *An Introduction to Art Education*, op. cit., p. 246.

¹⁴ Nolan C. Kearney, *Elementary School Objectives*. New York: The Russell Sage Foundation, 1953, pp. 95-101.

¹⁵ Ralph L. Wickiser, *An Introduction to Art Education*. Yonkers-on-Hudson: World Book Company, 1957, p. 268.

In their treatment of "responses to rhythms" in the primary grades, we read:

"When children aged five, six, and seven begin their school year, a great many of them will not be able to match tones (i.e., sing in tune). Therefore, there is logic in first listening to music, then responding physically to what is heard, and in the process becoming oriented to rhythm, pitch, and mood. This builds a background of experience for better singing a little later."²²

DEVELOPMENT OF DISCRIMINATING TASTE

In the elementary school, children should be encouraged to listen analytically to music. They should learn to distinguish between one type of music and another. This means that they should develop discernment and discrimination. The successful teacher can help improve the discernment of pupils without foisting his own preferences on them. A technique that is recommended by both common sense and experience is the Socratic one. Discrimination involves the sensing of differences and the making of choices or the finding of relative values. This can be encouraged by asking questions that lead to the discussion of the essential elements of the music or of painting or of any other art.

In the lower grades, the questions often will be simple ones. Can you count to the rhythm of the song? Can you tap in time to the music? What other song has the same rhythm? What does the music seem to say? Does it seem like butterflies in the air or birds high in the sky? Do you know any of the musical instruments that help to make the record? Does it make you sad or happy? Can you tell why? What kinds of music make you want to dance, to run and skip, to march, or to be still and go to sleep? What kind of music does the wind make on a spring day? On a cold winter day? Today? More difficult questions will sometimes be used. For example, third- and fourth-grade children may have some knowledge of the notes of the scale and may recognize bars, the key of C and the key of F and perhaps the staff, the whole note, half note, and quarter note. They may be able to recognize many of the musical masterpieces by sound and sometimes by name and composer.²³

In the intermediate grades, the children may be able to answer many questions about the mood and meaning of music, and something about the contributions of various instruments to the total effect. They have talked about how music fits into a culture, a historical setting, or a particular

learn it and are motivated to do so, but the lower grades are no longer thought to be the place where instruction in music begins. Even when learning to read music, the ability to read the notes is not to be considered a primary goal—an end in itself. It is a secondary goal useful only so that the pupil may achieve the primary goal which is to deal creatively with music itself. Children will learn to read music when they see the need—when they want to learn the music that needs to be read.

CREATIVE MUSIC

In the primary grades today more time in music is allotted to "creative" work than to mastery of music notation. Children of the first three grades can be musical without being "musically literate." The term "creative music" is often used to refer to the experiences one has in being musical, whether or not one is familiar with notation or instruments. As with creative self-expression in the graphic and plastic arts, creative school music is a creature of the later 1920's and 1930's. Fox and Hopkins were among the very first to sense the possibilities and their *Creative School Music*¹⁹ is something of a "classic" in the field.

A great deal can be experienced, before learning to read music, through dancing, rhythms, singing, the "toy orchestra," and chanting.²⁰ Indeed, much music has to do with the interpretation and creation of *mood*. Children should have a chance to respond to music and to use music to express their moods. Through a song and a dance, a child may find a new way to express happiness or sadness. "Being happy" in a dance is one way of expressing "happiness." The child who can be happy in music (or in drawing or modelling) is living more fully than another with fewer channels of expression.

The developmental program in creative elementary school music. In music education, as in all the other subjects, the concepts of maturation, of development, and of readiness are taken into account. Robert and Vernice Nye advocate the developmental, sequential approach to music in the elementary school.²¹ They make intelligent, if bold, interpretations of the implications of social maturity—the range of experience children bring to their art work. The Nyes are typical in underscoring the importance of the limitations of pre-school experience as preparation for elementary-school music.

¹⁹ Lillian Mohr Fox and L. Thomas Hopkins, *Creative School Music*, New York: Silver Burdett Company, 1936, p. 43.

²⁰ Robert H. Beck, "Progressive Education and American Progressivism: Caroline Pratt," *Teachers College Record*, 60 129-137, December 1958.

²¹ Robert Evans Nye and Vernice Trousdale Nye, *Music in the Elementary School*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957, pp. 8-18.

had been designed by an adult author. "Direction" was in the hands of the teacher, and the pupil was left with little to do but correctly follow the directions. The leaders in creative dramatics insisted that the conventional dramatics were not sufficient. They taught too little. If drama was to be allowed in the curriculum, it would have to be, they said, because the experience might be artistic. To be that, it would have to be creative, involving design and the appropriate use of gesture, words, and music or dance, as the case might be. And they were certain that children should help to plan the use of words and gestures to portray mood and dramatic action. The teacher should help them to use words and gestures appropriate to what they wished to communicate.

In dramatics, children have good opportunity to become conscious of the symbolic representation of people, things, and situations. They should be able to enjoy watching, planning, writing, and participating in dramatizations suitable to their levels of development.²⁵

WHAT IS "CREATIVE DRAMATICS"?

Much of the creative dramatics presently found in the modern elementary school is *improvised*. It is extemporaneous. There are no costumes; there are no theatrical props. This simplicity leaves the children responsible for suggesting mood, character and action as they work to express the dramatic episode. It also leaves them "free" to be original and to design their acting to be effective in suggestion. The conviction that children are capable of this kind of design and acting is one of the most impressive testimonies to the child that can be found in the curriculum of the elementary school. Perhaps what Geraldine Siks writes of the activity may be accepted as standard. She says of creative dramatics that there is no dependence on script, on lighting effects, stage properties, scenery or makeup.²⁶

The forms creative dramatics can take are multiple but should not be thought of as the difficult, subtle play-making of adults. Story dramatization, for example, is typical of the elementary school. The stories of Wilhelm Tell and of Robin Hood lend themselves splendidly to the abilities of most fifth- and sixth-graders. Pantomime and puppet plays are thoroughly appropriate in the intermediate grades and, where the teacher knows the younger children and understands their capacity both for comprehension and for original expression, puppetry is appropriate. Shadow play surely appeals to primary children. It is necessary to remember, of course, as Winifred Ward reminds us, that older children can characterize people more inter-

²⁵ Nolan C. Kearney, *Elementary School Objectives*. New York: Russell Sage Foundation, 1933.

²⁶ Geraldine Brain Siks, *Creative Dramatics*. New York: Harper and Brothers, 1958, p. 19.

celebration or event. They can contrast "church" music with Fourth of July music.

The Nyes have a fund of questions suggestive of what they hold essential about music and, therefore, important for able students to discern and discuss. They have the teacher asking: "Do you think this music achieves what it is supposed to do? Is it sincere? Is it true to type?" Each of these questions helps the student discern and appreciate *design* in music. Whereas design in drawing may involve shading and the use of lines, and design in painting may involve the intensity of color and the arrangement of colors, in music it is rhythm and harmony or tonal patterns that attract similar attention. So the teacher asks, "Do you think this music achieves what it is supposed to achieve in creating a mood or communicating a feeling?" The question acknowledges that design is indispensable for communicating the intended mood.

The Nyes²⁴ suggest other questions on a rather advanced level. These may be concerned with the pupil's judgment of the sincerity of the music. Presumably a work of art is "sincere" if its design creates a mood, or does something else intended by the artist and does it with workmanlike precision. The test of sincerity in art is that the expression be found *appropriate* when thoroughly analyzed. Sometimes there are questions about the type of the music. These provide an occasion for analyzing the design of the music distinguishing, perhaps, between the design of an "art song" and a "folk song." A folk song, by definition, has its origins in the improvisation by men and women singing of their lives and their occupations. Every folk song has many versions and is thoroughly informal. But an "art" song never is without a *form*, the term used to denote the design or structure of music.

• Creative Dramatics

The production of plays is one of the oldest art forms. No other medium of expression overreaches drama in affording a place for the expression of feelings. Moreover, drama readily joins with the other arts, particularly with poetry, music, and the dance, though also with the visual-arts designs made possible by costume, lighting, and scenery. These attributes have been recognized by the imaginative people who have pioneered *creative* dramatics in the elementary school. The traditional ideas about school dramatics were hard to modify. Until creative arts were introduced, children almost exclusively acted "parts" whose motions, costuming, and mood

²⁴ Robert Evans Nye and Vernice Trousdale Nye, *Music in the Elementary School*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957.

the possibilities for creative self-expression unless the teacher is able to start with them at the level where they are and motivate them to make necessary effort. In a modern school, the child begins to become conscious of "good" clothing, good city design, interior decorating, the beautiful colors of some birds and animals, the names of flowers that may be grown in the classroom, and the beauty of the butterfly's wings. He learns and sometimes composes simple folk songs and ballads. He learns to make simple pottery objects. He sometimes learns to weave, to make maps, and to plan and build simple stage settings, exhibits and window displays, and mobiles. He constructs models and miniatures of many kinds. Marching and drilling, baton twirling, tumbling, juggling, and simple prestidigitation are among the arts. Needlework, beadwork, leather-work and other crafts provide opportunities to create beauty. Photography in its various forms provides a great world for artistic expression.

THE ARTS CONTRIBUTE TO A FULL LIFE

The elementary school teacher can use experiences in the several arts to provide youngsters with opportunities to practice their ability to observe what the normally unperceiving person overlooks. This ability to observe leads to appreciation of the everyday world in which our lives are spent. Appreciation leads to enjoyment and to the immeasurable enrichment of life.

When the elementary school pupil creates, as well as perceives with understanding and appreciation, he practices designing. Sounds, colors, shapes, textures—balance, rhythm, harmony—papier maché, clay, wood, and metal all serve in the effort to create a mood, or an art object, or a song, or dance. Imagination is given practice; the child learns to express himself beyond the few gestures and words he formerly employed. He becomes able to live more fully, both as a child and as an adult.

estingly and with greater understanding than can the kindergarteners or seven-year-olds.²⁷

THE UNIFIED (OR INTEGRATED) ARTS PROGRAM

In many elementary schools, there are well-conceived, integrated art programs. The phrase unified or integrated arts is also used in the secondary school but rarely can it be accomplished there, because the time of the students is fragmented among many special fields. There is too little time for planning by the teachers for any true integration of art experience. In the elementary school, however, where the normal situation favors integration, creative dramatics offers a convincing example of the possibilities inherent in integrated arts. The children of the intermediate and upper grades readily respond in dramatic play to rhythm of movement, of sound, and meter. The youngsters will write poetry, sometimes versified; they will compose or arrange music; and they will develop dances and drills. They will design and paint scenery. In fact, they will draw heavily on all that they know in the productions that occur in a unified program.

• The Other Arts

Specific attention has been given, so far, to music, the graphic arts, and dramatics. Literature has been treated elsewhere. There are, of course, many other art forms and many media. More or less at random, we can mention some of the outcomes that have not been emphasized thus far.

PRIMARY PERIOD

Children in the first three grades learn to use pencils, chalk, and knives in working with wood, clay, soap, and paper in the creation of art objects. They may string colored beads in interesting sequences. They may make decorations for religious or patriotic holidays. They may illustrate history, literature, or science lessons with dioramas or exhibits. They may "cut out" an endless number of art objects.

INTERMEDIATE PERIOD

Children in the middle grades do all that is suggested for the primary, and much besides. Some at both levels will seem relatively insensitive to

²⁷ Winifred Ward, *Playmaking with Children* (second edition). New York: Appleton-Century Crofts, Inc., 1957. See Chapter 2, "Dramatic Experience of Little Children," Chapter 3, "Dramatic Play in the Middle Grades," and Chapter 4, "Improvisation of Older Children."

- Moore, Frank C., Carl H. Hamburger, and Anna Laura Kingzett, *Handicrafts for Elementary Schools*. Boston: D. C. Heath and Company, 1953.
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4. What distinction, if any, do you make between "creation" and "appreciation"? Is the one to be preferred over the other? Is one necessary for the other?
5. Is it the purpose of art in the elementary school to help the children make more complicated designs, rhythms, rhymes, patterns . . . ?
6. How would you compare and contrast the terms "insight" and "sensitivity"?
7. Does the expression of feeling interfere with the development of intelligence?
8. How do you relate processes of "imagination" and "understanding"?
9. Is the art program of the elementary school a program of play or one of work—or both?
10. How would you describe the place of art in our culture? Does the place of art in our culture influence the place afforded art in the elementary-school curriculum?
11. Discuss aesthetics from the standpoint of the moral and spiritual nature of man.
12. Sometimes children become expressive and creative but make technical errors in the process. How might you govern yourself as a teacher in such a situation?

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The schools exist to direct the educational experiences of all the children. The school staff—particularly the teacher—must not only know the children well and but also be skillful in the use of effective instructional techniques. All the important efforts of school administration are directed toward these closely related services.

The curriculum of a school cannot be considered apart from the administrative policies of the school. All aspects of a school system are inter-related. Modern curriculum policies are a *sine qua non* of modern administrative policies.

To direct the educational experiences of each individual child in such a way as to bring about his optimum development and adjustment to his culture presents one of the most complex problems imaginable. The approach should always be experimental and tentative to a high degree, since interpretations and implications, even when based on carefully observed facts, are subject to error. Administrative decisions must always be made in terms of what happens to individual children in classrooms.

ADMINISTRATIVE POLICY AND INDIVIDUAL PUPIL NEEDS

The administrative policies necessary to enable teachers to meet the various needs of all the pupils in heterogeneous groups should be directed toward two main goals: First, to make it possible for the teacher to know the pupil better—to know his abilities, his interests, and his deficiencies well enough to direct his learning experiences; and second, to provide instructional methods and materials with a range of difficulty and content commensurate with the range of abilities and interests of the instructional group.

The measurement program of the school should be systematic and comprehensive. The measurement program should furnish the teacher with up-to-date information regarding the record of growth and status of each of his pupils in at least the fields of English, reading comprehension, arithmetic, and study skills. The tests should measure at regular intervals the permanent progress that has been achieved toward the major and ultimate objectives of education. Knowledge of the pupil and his record of achievement should be considered basic data for guiding the educational process.

CURRICULUM



SCHOOL ADMINISTRATION AND

emphasized in instruction. Informal tests developed by the teacher often are effective for diagnostic purposes. These tests should always be selected and used strictly from the standpoint of their instructional value. Detailed attention to measurement procedures was given in Chapter 10.

There should be grouping within the class on the basis of status and needs. Grouping in *specific learning areas* is one of the most essential procedures in meeting individual needs. The within-class grouping in reading, for example, may involve grouping on the basis of four specific types of reading activity.

In the basic reading program in which the child is taught how to read and in which the development of the various reading skills is undertaken, the instruction should be in terms of the development in these skills. In most classes, with the range of ability that is common, it will be necessary to have at least three drill groups, each using reading tests suitable for their level of development. In many schools where but one basic reader is available, an attempt is made to adapt questions and exercises to ability. This is very unsatisfactory. If three or four fifth-graders have second-grade reading ability, they should use a book suitable to their level and not a fifth-grade book. If four or five children have seventh-grade reading ability or higher, they should use a seventh-grade reader or one equal to their competency. Of course, these groups are informal; if a name is attached to the group it should probably be the name of the book they are using. (Some reading texts have names and often the grade difficulty is not emphasized on the cover. A key number or symbol reveals to the teacher the level of difficulty of the book.) There may be five children in one reading group, fifteen in another, and ten in another. The size of each group will depend upon the distribution of reading ability in the class. A child may be shifted from one group to another at any time that the re-assessment of his ability warrants. Even within the groups, each child is given a book that he can read and exercises that he can complete successfully.

In the experience unit phase of the reading program, children usually are grouped in committees, each with a different problem to solve, report to prepare, questions to answer, and so forth. These committees are formed and their chairmen chosen on the basis of several factors: the reference books available, the difficulty of these books and the appeal of each book; the interests, reading ability, and other abilities required by the committee's work; and the needs of certain children to assume responsibility, to be successful, to develop self-confidence, and so forth. The groups here are called committees but they are formed in such a way as to give each child tasks that he can do, books that he can read, responsibilities that he

Measurement should begin with a relatively undifferentiated test of the individual Binet type at the pre-primary level and reach a considerable degree of differentiation in terms of improvable skills, abilities, and attitudes by the intermediate-school level. During the primary-school years, the differentiation should be in terms of (1) specific abilities related to developing number concepts, (2) reading readiness, some aspects of beginning reading achievement, and (3) specific behavior related to health and socialization. Group tests that require reading ability generally are unsatisfactory below the fourth grade. During the intermediate-school years, however, the approach to complete differentiation of learned behavior in terms of ultimate educational objectives can be made.

The results of the testing should be recorded in some well-known, easily interpreted unit of measurement showing the growth in each differentiated ability from year to year. It is also helpful to have these scores portrayed in graphic profile form. This test record should be kept in a permanent record folder, which also should contain other important information about the child—his health record and information on social and emotional development and pertinent information about the child's family, his interests and activities outside of school, and samples of his best mathematics, handwriting, art, poetry, and composition produced each year. Additional pertinent information may be secured by having each child write an autobiography.

Systematic testing should be carried out at the beginning of the school year; end-of-course testing should be avoided or done mainly to supplement beginning-of-course testing, and generally for research purposes. Testing early in the school year has several distinct advantages. In the first place, it provides the teacher with up-to-date information regarding the educational status of each child at the beginning of the period of instruction when attention should be focused on planning in terms of individual needs. When tests are given at the close of the school year, the efforts of the teacher are more likely to be centered on preparing children for the tests and hence may result in undesirable cramming procedures. Also, tests that are administered at the end of a vacation period will reveal the more permanent acquisitions. Finally, by testing at the beginning of the year, the temptation to use the tests to determine promotion or failure is minimized. When a child knows his status in improvable skills at the beginning of a year and considers his progress during the preceding year, there is usually an urge on his part to better his previous record.

Other tests of a more diagnostic nature in reading, arithmetic, and the language areas should be available to teachers at all times in order to determine individual needs and to measure progress in the skills being

THE TEACHING LOAD SHOULD BE LIMITED

Teachers skilled in the art of adapting group procedures to the needs of individual pupils insist that no primary teacher should be responsible for more than 25 pupils and that 30 pupils should be the maximum load for intermediate-grade teachers. Of course, there are individual differences among teachers as well as among pupils. Some teachers can direct 40 pupils with great effectiveness. Others fail with half that number. Some teachers use the same "approach" in teaching a class of 20 that they use with a class of 40. However, the size of classes should be limited to the number that a competent teacher who is sensitive to individual pupil needs can manage successfully.

TEACHERS SHOULD REMAIN WITH THE SAME PUPILS LONGER

Many elementary schools permit the teacher to remain with the same pupils for more than one year. In some schools the pupils have the same teacher from kindergarten through the sixth year; in others, one teacher through the primary years and another through the intermediate years. Of course, in one- and two-room rural schools this has always been accepted practice. The continuing teacher plan eliminates the concept of a grade teacher and gives a teacher the opportunity to know more completely the abilities and peculiarities of his pupils, to become better acquainted with his pupils' parents, and to think in terms of child development rather than merely of the subject matter to be covered. The teacher is enabled to start each year with a thorough knowledge of his pupils and can plan the work of the year in terms of specific needs. The process of promotion is eliminated; there are no failures in the sense of repeating the same materials and exercises. Each child works with materials suitable to his level of development and starts each September where he left off in June.

This plan need not be adopted for all teachers in a school. For example, if a first- and a second-grade teacher are willing to try the plan and if it is acceptable to parents and principal, each teacher can keep the same class for two years. If a third-grade teacher is willing to enter into the plan, each teacher may work with the same pupils for three years. Some parents may object to having their children with the same teacher for more than one year, or personality conflicts may occur between pupils and teachers. If the school is large enough, such children may be transferred to another teacher. Under this plan, pupils and teacher who work well together remain together.

can shoulder. The learning activities associated with the unit development are so varied that every child can make a contribution that is satisfying to him regardless of his level of ability.

The free reading program is an individual matter. The teacher helps each child select books from the library that are suitable to the child's interests and level of ability. If this phase of the reading program is handled properly, the average elementary child will read perhaps 20 books during the year simply for the pleasure of reading. The important thing is to help the child select a book that he is certain to like. If the teacher tries to make the child read a particular kind of book or requires him to make book reports, the program will be irreparably damaged.

The remedial reading program may involve only a few pupils in the room who are reading below their potential level. Generally, by the fourth grade, the median or average child should be able to read any material that he is able to understand when it is read aloud to him. The reading level cannot be higher than the thinking level, but it will normally approach or equal the thinking level. This means that there will be some children in a fourth grade, for example, with second-grade reading ability who do not need remedial attention. They are reading as well as their intellectual development permits. The grouping for remedial reading instruction is based on specific needs of individual children.

Pupils also will have to be grouped in terms of their arithmetic ability. However, in this field the use of diagnostic tests will enable the teacher to make adjustments to individual pupils with less specific grouping than in the reading area. In the mechanics of writing it is possible for the whole class to write on the same topic, for example, "thank you" letters for Christmas presents. But the letters will reveal that grouping is desirable for meeting the needs of certain children.

The important consideration in informal grouping within the class is to form groups in terms of specific needs in the various areas of the curriculum. Much of the work of the class, however, will still involve the entire group. This should be kept in mind in planning, coordinating, and unifying the over-all activities and goals of the class. A pupil needs to feel most strongly his membership in and acceptance by the total group. The use of smaller groups, however, should be on a matter-of-fact basis for meeting special needs and purposes that are subsidiary to the over-all purposes and undertakings of the total group. The use of groups is demonstrated in Chapters 21, 22, and 23.

Since different texts, reference books, materials, and procedures are used with each sub-group, the necessity of buying complete sets of readers and texts is avoided. A much greater range of materials may be purchased at no greater expense.

age and general physical development. These are, together with general social development, also the most obvious. In a graded school it is very important to a child that he be grouped with his peers. To deny him this privilege is to violate one of the most important requirements of a favorable learning situation. A child will always put forth effort to gain the approval and acceptance of his peers; but if he is grouped with children he considers chronologically and physically his inferiors, he cares less about their approval. In addition, democratic control in such a group is much less effective. Therefore, throughout the period of maturation, these traits should constitute the fundamental basis for educational grouping; that is, when a child is five he enters kindergarten, when six he enters the first grade of the elementary school, when twelve he enters the junior high school, and when fifteen the senior high school. Since chronological age is not perfectly related to physical and social development, some adjustments may have to be made, especially at the primary level, with the physical and social developmental level taking precedence over chronological age. A child should live and work in the group he most obviously belongs with, which accepts him and is accepted by him. It will be recalled that both intelligence and achievement test data show that age groups are no more variable than grade groups. Hence this basis for grouping will not increase materially the range of ability with which the teacher must cope.

Some school officials have considered the possibility of admitting children to the first grade in terms of mental age rather than chronological age. If this were done, there would be children in the first grade ranging from a chronological age of four to eight years. The eight-year-olds would learn to read with great difficulty but the four-year-olds would learn easily and rapidly. Few experienced first-grade teachers would recommend this policy. But the illogic of admitting children to the school on the basis of chronological age and then shifting to achievement as a basis for progress through that school should be seen with equal clarity.

When a 13-year-old boy moves into a new school district, he is sent to the junior high school on the basis of no more evidence than that he is 13. But suppose he cannot read. There are already pupils in any junior high school who cannot read; he will be grouped with them for instruction.

Suggestions have been made that children should be grouped on the basis of the average of their chronological and mental ages. This means that a fifteen-year-old boy with a mental age of ten will be grouped with a ten-year-old boy who has a mental age of fifteen. One does not need to be a psychologist to see the absurdity of such a grouping; it places the very slowest with the very best.

If chronological age and physical and social development are accepted as the primary bases for grouping in the school, all assumptions that a grade level indicates anything specific regarding intellectual competence or

REPORTS TO PARENTS SHOULD BE AS COMPLETE AS POSSIBLE

The plan of reporting to parents solely in terms of percentage marks, or letter grades, based on relative standing in the class, is not consistent with the policy of meeting the needs of individual pupils. Likewise, the practice of marking a pupil satisfactory or unsatisfactory in terms of his general learning capacity is inadequate. The weakness of these marking and reporting methods is that they tell too little and their meaning is ambiguous. What is needed is a reporting system that involves a mutual exchange of information between teacher and parents. The child also should be informed about how well he is progressing. In many instances the child is more concerned with the report than are his parents. It is important that he be able to evaluate his development realistically. Certainly in the intermediate grades and above, he wants the best available measures of his progress.

It takes some time to prepare teachers, parents, and pupils to understand, accept, and profit from improved reporting systems. Changes must be made slowly and with every effort to show those concerned how the proposed system is presumed to be better and how they may profit from it. Some schools start the system with a specific primary class and advance the practice through the school with this class.

If proper preparation is made, it is beneficial and revealing to all concerned if the teacher once or twice a year, or more often when desirable, sits down with the parents of each child and discusses the youngster's achievements and needs, going through the pupil's record folder and pointing out signs of his growth and status, his achievements in the basic study skills and progress toward other major educational objectives, samples of his work, his behavior characteristics, and his personality strengths and weaknesses. The teacher will of necessity study each pupil in preparation for this conference and plan to learn much of value from the parents regarding the out-of-school life of the pupil. Teachers using this system of reporting keep records, study growth and development, make case studies—become better acquainted with their pupils, and in addition, get to know their pupils' parents. Because of the time such interviews take, most schools may find it necessary to work out a combination of parent-teacher conferences and improved periodic report form.

THE PRIMARY BASES FOR GROUPING CHILDREN INTO CLASSES SHOULD BE GENERAL SOCIAL AND PHYSICAL DEVELOPMENT

During the years of maturation, the traits most important to the child in determining membership and status in a congenial group are chronological

each room library. The room library also should contain books at appropriate levels of difficulty on the units to be developed by the class, children's literature in abundance, and books on popular mechanics, hobbies, science, and how to make things. The school library should constantly feed into and supplement the room libraries, but it should never supplant them in any way. Library books for reference and recreation and all the magazines and other things that go to make a library are frequently the greatest single tool in an elementary school.

In addition to a wealth of books, there should be in the elementary classroom children's magazines and newspapers, art materials, woodworking tools, a workbench, simple science laboratory equipment, a science cabinet and sink with running water, bulletin boards equal in space to the blackboards, colorful, well-chosen pictures, visual aids of all types, movable desks, tables and chairs, heavy and light screens for dividing the room, and a combination radio-phonograph-television for watching and listening to educational programs. The room should be large enough to provide at least 25 square feet of floor space (30 square feet is desirable) for each pupil. The classroom should be a self-contained unit with equipment and facilities for scientific experiments, construction activities (the building of scenery for use in dramatics, for example), painting, modeling, and other art forms, and the publishing of a room newspaper. In addition, a place or places in the room should be set aside where the children can engage in concentrated reading and study, hold committee meetings, and entertain guests, as the occasion warrants.

School-room environments of the past were sometimes highly restricted and needlessly standardized. Learning activities were limited (by the fixed, screwed-down seats, blackboard sidewalls, and cramped quarters) to reciting, reading, writing, and listening. Unnecessary restrictions on communication and movement limited social experiences and social learning. A more unstimulating environment for a group of children is difficult to conceive. In no place outside of school has man duplicated such surroundings for his adult activities.

CURRICULUM POLICIES AND PRACTICES ADJUSTABLE TO INDIVIDUAL PUPIL NEEDS

It is obvious, that if all pupils in the elementary school are required to follow the same course of study, read the same books, do the same exercises, solve the same problems, and pass the same examinations, there can be but slight recognition of individual interests and abilities. Whenever a school purports to accept all the children of all the people and to meet their individual needs, the curriculum must be developed according to policies

educational achievement must be given up. Evidence has been presented in Chapter 3 indicating that grade level, *per se*, never truly signifies intellectual competence or educational achievement. The assumption that it does has led to indefensible practices, subterfuge, and confusion in meeting individual needs. Diplomas will be given on the basis of years attended, age attained, and courses taken, but they will be assumed to convey little or no other meaning. They never did have any other meaning. The school period, at least through the high school, should probably be the same length for all pupils. No attempt should be made to bring the slow pupil up to standard by keeping him in school a few extra years. No attempt should be made to accelerate the bright pupil through school at any early age. As instruction is adapted to individual needs and capacities, information on the level of achievement attained in the various areas of learning will be determined through measurement procedures and reported to anyone who has the right to such information.

The tendency toward inflexible daily programs in the elementary school should be overcome. An outline of the daily and weekly program may be necessary: (a) to give the teacher and pupils a sense of security; (b) to insure that the various areas of the curriculum are given attention; and (c) to conform to life and activities outside the school, that necessarily run on a very rigid schedule. However, if the teacher is to be free to meet the individual needs of children, the program specifying the amount of time to be devoted to each learning area must be made more flexible. The week rather than the day should be the unit of program-making. Certain periods, such as the current affairs or the library period, may be held once each week. Other periods, such as art and construction work, may require long periods twice or three times each week. Free periods near the close of the day when each pupil works on his most pressing problems or does what he wishes should be provided almost every day. The program should always be considered as a guide rather than a requirement. Sufficient flexibility to meet the requirements of planning and executing the unit activities should always be possible.

A wealth of instructional material must be provided. Instructional materials should have a range of difficulty, interest appeal, and content commensurate with the range of abilities and interests of the class. Classroom libraries in the elementary school should be given special attention. They should contain all the basic reference materials suitable for the abilities represented in the room: dictionaries, atlases, children's encyclopedias, yearly almanacs of information, *Who's Who in America*, and so forth. There should be hundreds of good books for children that tell interesting stories at the same time that they educate in a variety of other ways. It is not sufficient that these books be in the school library; they should be in

that gives it significance and meaning, and it always involves attitudes. Even the skills of walking, running, and playing games of all kinds involve situations that give them meaning and value.

The *subject-matter aspect* of learning is concerned either with man's relationships to man (the social sciences and the humanities) and/or man's relationship to the universe (the natural sciences). To deal with these relationships requires, always, some of the skills mentioned above and involves attitudes and feelings toward the subject matter and skills involved.

The *attitudinal aspects* of learning always involve a context and content and a way of behaving. Attitudes, of course, are closely related to certain social skills and moral behavior patterns. A person's attitudes toward mankind or the universe may range from the extremely hostile to the extremely friendly.

INTEGRATING THE CURRICULUM

If the subject matter of the curriculum is to be integrated, it should be organized around content that has significance, meaning, and purpose to the learner. In saying this we in no sense mean to place subject matter, skills and attitudes in minor roles. In fact they are "co-equal," for learning cannot be effectively achieved in a vacuum free of skills, content, attitudes, and everything else. It is the subject matter (something about something), that is manipulated as children learn. Since all subject matter is related to man's relationships to man and to the physical universe, the content at each broad maturation and developmental level will deal with significant aspects of the social and natural environment of the child. It will begin at the kindergarten and first-grade level with the home, the family, the school, and the neighborhood and move out gradually at succeeding levels to include the community, the state, the nation, the world, and the universe. It must not be forgotten that the understanding of the immediate cultural and physical environment requires ultimately an understanding of other cultures in other environments both past and present as they are determined and influenced by historical, geographic, physical, and biological factors.

PROVIDING FOR INDIVIDUAL DIFFERENCES

Because there is such a wide range of abilities, skills, and attitudes in every class, it is important to recognize that any aspect of the social or natural environment can be experienced, thought about, read about, and partly understood at all levels of development from the kindergarten through the university graduate school. Increasingly, there are books dealing with many aspects of the environment (automobiles, airplanes, cows, boats, and the like) at every reading level from pre-primer to the highly

that recognize individual and trait differences. The policies outlined have two purposes:

(1) To strive for a curriculum sufficiently broad and flexible to recognize and reward the great variety of combinations of aptitudes and interests of its pupils, enabling them to learn what their peculiar strengths and weaknesses are and preparing them to fit into our complex society with its multiplicity of demands for workers with varying aptitudes.

(2) To free the teacher from rigid procedures and prescribed subject matter to be covered, in order that he may adapt procedures and subject matter to the abilities, interests, and aptitudes of pupils. Since the teacher knows the pupil better than do the supervisors and administrators, he is, when unhampered in regard to procedure, the person best qualified in the school system to plan for the optimum development of the pupil.

SKILLS, SUBJECT MATTER, AND ATTITUDES

It is helpful in thinking about the curriculum, its objectives, content, and organization, to differentiate three major aspects of learning. The three aspects are all important and essential in any learning activity. It is difficult to say that one is more important than another; they are highly interrelated and go on at the same time. Perhaps one of the most significant faults of the traditional curriculum has been that the various aspects of learning were thought of as independent and treated as such. The three aspects are: (1) the skill aspect, (2) the content aspect, and (3) the attitudinal or feeling aspect.

The *skill aspect* of learning is concerned with the techniques and procedures of performance. This may be a skill in manipulating a pencil or in combining numbers from memory, or it may be a broad indefinite skill in dealing with new problems or in getting people in groups to cooperate. Excellent performance requires the integration of properly adjusted and related behavior. Skill in thinking, for example, requires ability to organize material, to see relationships, to make inferences, to hypothesize readily, to systematically test possible solutions, to recognize clues, to see things in new relationships, to be critical of superficial relationships, and so forth. But thinking always involves subject matter or content; we must think about something. Thinking always takes place in a context that gives it significance. It also always involves attitudes and feelings toward the process and the context. The communication skills (listening, speaking, reading, writing, gesturing, and the like) always involve content and attitudes. We have attitudes and opinions about the things we listen to and speak, read, and write about. Skill in quantitative thinking (arithmetical processes, computation, the logic of mathematics) always involves content or at least a context

and if properly used, these lists of essential learnings have some value in that they identify subject matter thought to be important. We shall mention two of the values. First, lists serve as guides for the teacher. Exercises for teaching these skills may be introduced and emphasized when their purpose is clear or when there is a need for them. The purpose of the most essential skills is clear even for the first-grade child. He knows why he came to school (to learn to read) and if he doesn't make progress in that direction, he is disappointed and provoked. Graded lists should never be considered as things to be learned by all children once and for all,¹ in a one, two, three, four sequence, out of their functional setting and natural context. Neither should they be considered as centers around which all instruction should be organized. The practice of organizing the curriculum almost entirely around these piecemeal, itemized goals was a great limitation of the schools of our fathers.

The second use to be made of such lists is in the systematic and economical diagnosis of pupils' needs and deficiencies. At regular intervals the pupils should be tested for knowledge of spelling, arithmetic, handwriting, English skills, and essential reading skills. The purpose of this testing is to keep both the pupil and the teacher constantly aware of the specifics of individual development and deficiency.

Since life outside the school recognizes and rewards a great variety of aptitudes and combinations of aptitudes, the school should do the same. In the past, the schools too often recognized and rewarded only docility and a facile memory. Teachers in backward schools often expressed surprise when pupils they had considered hopeless achieved considerable success in later life. The broadening of the elementary curriculum to include various forms of practical arts, fine arts, athletics, a school paper, extended educational field trips, participation in school government, the safety patrol, radio programs, and community health programs is evidence of the acceptance of this principle. The elementary school should be a proving ground in which the individual pupil discovers his peculiar strengths and weaknesses. If every child is to find himself, the schools must offer him opportunities to develop as broadly as possible but in a purposeful and meaningful way.

ADMINISTRATION AND BROAD CURRICULUM POLICY

In order to provide leadership in curriculum improvement, administration must be active in three areas.

technical level. In a fifth-grade class with a range of reading ability of seven years, every student can experience, read, discuss, and solve problems at his level of understanding about any aspect of the social and physical environment. The subject matter related to a given unit of work may differ for children at various stages of development as will the skills utilized in dealing with it and the understandings and attitudes that result from it, but all the work of the class can be integrated in terms of the varied aspects and problems of the unit. The organized type of subject matter usually found in textbooks is the end product of such study, not the starting point. Given adequate reference materials and guidance, classes in the upper elementary school could write meaningful and instructive texts.

The curriculum units in the social and natural sciences should serve to organize subject matter around the purposes and problems of children. The curriculum should make possible the use of a *wide variety* of stimulating educational material from *factual* source books, literature, and visual and auditory aids, with the *local social and physical environment* as a laboratory. It should make possible an appeal to many and *varied interests*. It should make available much reading material with a *wide range of difficulty*, content, and interest appeal. Units should stimulate and give purpose and meaning to a *wide range of educational activities* in reading, research, problem-solving, discussion, use of reference materials, writing and giving reports, letter-writing, organizing materials, planning, observing relationships, drawing conclusions, formulating generalizations, dramatizing, understanding and using all art forms, construction activities, using arithmetic in a functional way, taking responsibility and cooperating in *group projects*, conducting meetings, giving talks before groups, panel discussions, and interviewing to *develop skills, understandings, ideals, values, beliefs, and attitudes*.

Units, too, should give purpose to the functional use of the *basic skills* in the language arts, reading, and mathematics. Skill in these areas must be given constant, definite, and systematic attention. The *developmental sequence* of each must be followed in the *development of each child*. Much practice in their use should come in the social and natural science units. The grade levels at which certain knowledge, skills, and abilities should be learned cannot be determined with any degree of specificity.

However, school systems prepare graded lists of things to be learned in all subjects: lists of words in spelling, lists of processes and problems in arithmetic, lists of exercises in handwriting, lists of capitalization, punctuation, and usage rules in language, lists of skills to be developed in reading, and many others. When based on experimental evidence with reference to the social value of the skill and its place in the sequence of development,

creative, scientific manner. In contrast to all this, many of our present procedures are an outgrowth of a day when teachers assumed their duties in the classroom with little more than a brief period of training during or immediately after completion of the twelfth grade. Under rigidly prescribed curriculums, teachers have little opportunity to operate as professional people. Perhaps treating teachers as professional people will hasten professionalization. Administration must take into account many of the developments in leadership that parallel the development of knowledge in group dynamics and social psychology. If teachers can be freed from the fear of being rated, transferred, dismissed, or denied promotion as the result of deviations from past practice, if they can come to regard their superiors in the educational hierarchy as friends, as helpers, as experts, as sources of information, and as bulwarks to security, morale will improve and progress will be accelerated. If administration can remove the fear that teachers have of revealing a weakness, a lack of knowledge, a lack of skill, a specific failure with a specific child, or a deviation from supervisory opinion, and in its place set up a healthy, cooperative attitude, it will have accomplished wonders in improving curriculum practice.

Third, administration must become active in developing a new type of public understanding. The public schools in our democracy belong in a very peculiar sense to the American people. In the final analysis, the public has a perfect right to tell the schools what shall and what shall not be done in them. By and large, the public is satisfied with American education, but this satisfaction would be increased greatly were the public really informed about the efforts that the profession, from top to bottom, is making to preserve the democratic way of life, the happiness and well-being of children, the conservation and refinement of the culture, the installation of moral and spiritual values, the teaching of fundamental knowledges and skills, and all the other objectives with which schools are concerned. Unfortunately, as schools have concerned themselves with these things, they have increasingly operated in isolation from the general public. This isolation is now being recognized as an error and steps are being taken to break it down. It cannot be done by high pressure publicity programs, by beautifully printed brochures, by hiring public relations men, by radio programs, by newspaper releases, or even by community committees of outstanding leaders who meet but to listen and approve as educators convince them of their personal competence and the purity of their ideals. Though some of these things are important, they are ineffective without something more.

The most promising administrative development in overcoming public misunderstanding is to interest more and more citizens in actual educational planning. These citizens may or may not be parents. They should sit on curriculum committees, report-card planning committees, discipline

First, administration must assume responsibility for seeing that available research in curriculum is used widely in the schools. If this is to be done, principals, supervisors, and teachers who work with curriculum development must come to understand the experimental nature of the educational process. In dealing in the classroom with the individual differences among children, each educational procedure is an experiment both with the class as a whole and with individual children. Teachers must regard their work in the light of objectives to be realized, of methods and procedures to be tried, and of assessment to measure effectiveness. When methods fail, there must be a re-examination of available evidence, a new hypothesis, and a new experiment. Educators must understand the essential nature of scientific method. They will understand it if, singly or in groups, they engage in individual or cooperative research on projects relating to the daily problems of teaching. Thus they will become conscious of the means by which research information is acquired, and grow accustomed to thinking of research information in terms of real situations.

If teachers and other curriculum workers are to make use of research, the research must be readily available to them. Administration must provide staff members whose function is to seek out research pertinent to the curricular problems of the moment. These staff members should have an understanding of research from having themselves participated in research projects. Thus, they should have some knowledge of statistics and experimental design and should avoid deluging teachers with an indiscriminate barrage of research findings. They should be sufficiently sophisticated to select pertinent research in various areas. Such resource people should serve not as supervisors or directors but as servants or consultants. Their positions should be purely advisory.

Second, administration must be alert to eliminate supervisory or inspectional practices that, no matter how well intended, actually serve to slow down real progress. One of these practices is to rely too much upon carefully outlined and rather specific curriculum content and upon supervisory or inspectional procedures that serve to protect the recommended programs from criticism or change. Such supervisory programs are frequently conceived of in the kindest and most helpful of terms, and in actual practice frequently relieve teachers of worry and strain and help them to achieve what is *expected* of them. In practice, however, this tends to set up curriculum prescriptions and supervisory techniques that make progress difficult.

To overcome these failures, new concepts of leadership must be developed. Teachers must be regarded as professional workers. They are expected to exercise professional judgment, to be expert in applying professional knowledge and skill, to be alert to the various problems they face, and to be competent to make use of their professional education in a

14. Make a list of learning tasks that can be completed only by pupils who have reached a given stage of development. (For example, reading a book of seventh-grade difficulty.)
15. In a few words, discuss each of the three areas in which administration should be active in providing leadership in curriculum development.

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committees, subject-matter committees, mental health committees, and other committees that deal with method and content. These representatives should be chosen by various community groups. When any group or any individual in a community expresses doubt or resentment or mistrust concerning the broad directions that education is taking, their help should be enlisted if possible. By their nature, some of these committees will be statewide or citywide, but the *best work* will often be done where groups of citizens concern themselves with the problems facing their own school in their own neighborhood. The techniques for doing this type of thing are only now being developed. There are, however, some promising beginnings. It is an area where pioneering is necessary. The same psychological principles are involved here as are involved in any healthy learning situation.

• Discussion Questions

1. The chief use of tests at one time was the determination of grades and promotion. What are the principal arguments in support of and against this policy?
2. For what purposes should tests, measurements, and other evaluation instruments be used in a modern school?
3. In what ways can an inadequate evaluation program harm the curriculum of a school?
4. What is the nature of learning experiences in which grouping is desirable? What are the characteristics of learning experiences where grouping is not necessary?
5. How should the teaching procedures of a teacher with 20 pupils differ from those of a teacher with 40 pupils?
6. What are the advantages and disadvantages of having a teacher remain with the same pupils for several years?
7. What are the limitations of the traditional report card? How is it inconsistent with a curriculum designed to meet the needs of individual pupils?
8. Why should children be grouped with their accepted peers?
9. In what ways does a daily program give a person a sense of security?
10. Draw a diagram of what you consider to be an ideal classroom for elementary children. Indicate the location of the windows, furniture, reading center, bulletin boards, blackboards, science equipment, and everything you consider desirable and essential in a classroom.
11. What arguments can you muster in defense of the traditional curriculum that isolates the skills, the subject matter, and the feeling aspects of learning?
12. What subjects have you studied that are so remote from life that the local environment could not serve as a laboratory?
13. Make a list of learning tasks that can be completed by each member of a class varying greatly in ability, each working at his level of competency. (For example, writing a letter to a school friend who is sick.)

A further source of difficulty is the variability of the situations in which the teacher may find himself. There are so many differences in communities—in children and in parents, in race, religion, and socioeconomic backgrounds—that it is exceedingly difficult to establish a pattern that a teacher may follow in every situation. Differences between schools are sometimes startling. This difference may have its source in a school board, a superintendent, a principal, a corps of supervisors, or a combination of any or all of these. There are problems in taking over a class that has been previously taught by a rigid disciplinarian. Children need time to develop new learning skills when they are placed in a new educational environment.

But, most important are the subtle problems the teacher faces. An accidentally broken ink bottle may create quite a disturbance and leave a big spot on the floor but be far less significant educationally than a few unshed tears welling up in the eyes of a timid child. The third-grade child who is discovered copying the spelling words from a small slip of paper in his hand may be telling the teacher something more important: that he is developing a fear of school—a fear of failure and a lack of confidence in his ability to do what is expected of him. If teaching were a simple mechanical process, it might be possible to provide teachers with ready answers to their problems. Since this is impossible, teachers must have the background, courage, freedom, imagination, and ingenuity to approach each classroom situation with an experimental attitude. Whatever occurs in the classroom will be affected by the innate complexity of the situation, the basic objectives that grow out of a concern for human welfare, and the learning situation, for the individual and for the group, as it develops from day to day and hour to hour.

THREE

Part Three portrays actual situations in which teachers practice the principles set forth in the first two parts of this book. A persistent reaction of teachers and prospective teachers to much of the written material designed to improve teaching has been that it is impractical. There is a strong temptation on the part of the new teacher to revert to methods and content areas that were used in the classrooms he attended. Frequently he has never really experienced the kind of a classroom that the theorist discusses. Then, too, many of the people who contribute to the teacher's knowledge of the psychology of learning and of child growth and development have never actually taught in an elementary school. The elementary teacher, however, is a practitioner. He must apply new knowledge to his field. This is the more difficult, today, because of the rapid development in both theory and practice in all fields. In education, for example, it may be demonstrated that children in a controlled situation who are subject to authoritarian domination and drilled on facts and skills will fail to develop certain desirable attitudes and social competences. However, it is difficult for a teacher to devise procedures to take account of all such insights.



PART

The puppet theater provides a unique and effective means of encouraging children to express themselves. Such a theater will provide the structure and motivation for a unified program in which the children may come to draw, paint, design and make costumes and scenery and even invent plots and write dialogue.

This is the story of Marion Johnson. Her story should not be read as the example of the perfect teacher, nor, if she were, should her methods or the steps she took in the development of units be copied. Her story is that of a young lady who gives promise of becoming a most excellent teacher by avoiding many of the traditional pitfalls and moving confidently to experiment with methods based on new research and new insights.

THE TEACHER IS A PERSON, TOO

At the beginning of her senior year in high school, Marion Johnson had decided to become a teacher. She has always liked children and school. As a child, she had learned easily, except in mathematics. She always felt a bit uncertain and incompetent when faced with number problems. She knows this was probably due to some early experience, but she does not remember what it could have been. She has studied mathematics in college and feels confident she can handle the mathematics that will be required of her in the elementary schools. Her marks all through school have been good—almost all A's in elementary school (except for arithmetic), A's and B's in high school, and a good B average in college. She looked forward to teaching after graduation from college. Her parents have, in general, held teachers in respect, though they had been critical of some who had been uncouth. As a prospective teacher, Marion saw in her profession an opportunity for a variety of experiences not available to people in other professions.

After high school, she attended a teachers college in a small city. She participated in extracurricular activities both in high school and in college, but had never been a campus "big wheel." She regarded her "regular" work as of prime importance, and was content with playing supporting parts in most activities.

An only child, she has grown up in a small community of 4,000 people. She is of English-Scotch ancestry, and her parents are second- and third-generation Americans. Her father is cashier in the Security



MARION JOHNSON—

WHERE ANGELS FEAR TO TREAD

Miss Johnson met the principal of the Pleasant Valley School at eight o'clock on the Tuesday morning following Labor Day—the first day of school. Miss Altonweather was a large, friendly woman with a forceful personality. She impressed Marion as a woman with a sense of humor and a fund of energy.

"We will let the children in at nine," she said. "We will direct them to the proper rooms. Children who were here last year will know where to go, but some new ones will have to be shown where their rooms are."

There were two other new teachers, and Miss Altonweather spoke to them together in her small inner office. "The other girls will know what to do," she said.

Each teacher was to keep a list of the pupils who reported and ask all new pupils for their report cards or other records from their old school. These were to be sent to Miss Altonweather's office at the close of each day with their names. Each teacher was given a few enrollment cards. The regular textbooks were in each room. These were to be passed out and their numbers entered in the textbook record after the pupils' names. Each teacher had on her desk the promotion cards of all those who were to be in the room, except for pupils new to the district. Those who did not attend should be noted, since state law required attendance records from the first day and state aid money was allocated on the basis of attendance. However, the attendance registers should not be filled in during the first few days, until most latecomers showed up, because it was desirable that the records be as nearly alphabetical as possible. Temporary seats should be assigned, but pupils should be made to understand that this was temporary. It was estimated that the number of pupils would average about 35 per teacher. They expected 36 in the fourth grade.

Each teacher should stand in the hall near her door as the pupils entered. The children would be excused at eleven o'clock the first day, but after that the sessions would be full length. The teachers could be in their rooms most of the first afternoon but at 2:45 there would be a general teachers' meeting.

"Do the best you can," Miss Altonweather said. "We'll iron it all out later. The children are eager and pleasant the first day. If you need me, I'll be in the office or the halls."

Marion fancied that she felt a bit like a soldier going into his first battle, but she was surprised that she was not more nervous. She thought perhaps the other new teachers were more nervous than she was. In the hall with Miss Altonweather, she met three teachers who had not previously been

Bank, the smaller of two banks in the community. Both her father and her mother are leaders in their community, active in church and lodge work, and highly respected. Neither one has ever sought public office, and are inclined to be highly critical of "politicians." In her sociology classes, she studied the social class structure in America and could not decide whether her family should be considered a lower middle or upper middle class family. She was inclined to believe it would be the latter.

Her father has always provided well for his family and though he had worked at a low salary as a young man, he has been moderately successful, and is hopeful that he will be able to retire in his middle sixties, with enough to live on and with the prospect of leaving a respectable estate to his daughter.

Marion is a neat, attractive young woman, five feet, six inches tall. In repose her face is plain, neither beautiful nor ugly. She selects her clothes with good taste and with an eye to the latest styles and wears them with confidence. Her eyes are speckled with brown, and her hair is light brown. Her weight is near the accepted norm, and she maintains it without effort. Though she has had the common illnesses, her health is good. She is not the athletic type, but she enjoys the exhilaration of swimming, golfing, and skating.

Her friends regard her, and she regards herself, as emotionally well adjusted. She smiles easily, but with restraint. She makes friends without conscious effort, but is content with a relatively small group of close friends. She dates boys occasionally, but has not become emotionally "serious" or "gone steady" with any of them.

Marion has a mind of her own, but this has not always been evident because of the frequency with which she tended to conform. Her parents had been strict about demanding obedience in little things, but had taken her into partnership in planning the larger affairs of the household, especially when such matters involved her. She is inclined to accept the moral and social standards of her family and her church. She enjoys thinking things through for herself and, as she grew up, she has upon occasion surprised her family with the cogency and reasonableness of her thinking when it involved personal decisions. She sometimes regards her parents as "dated," but they amuse rather than irritate her. She has a deep, healthy affection for both, and the older she grows the more she enjoys her mother as a friend and adviser. As the years have passed, both parents have accepted her opinions with respect, though they are sometimes at a loss when she argues from the background of her sociology and psychology duties in the Pleasant Valley School, an eight-teacher elementary school in a small community 25 miles from the city.

peared on many faces, a few laughed aloud, while eight or ten others threw their heads into their arms on the desk tops to hide either their grins or their embarrassment. Marion was not able to determine whether "Stinky" was present or what his degree of embarrassment might be, but she guessed by the direction of a few glances that he might be in the left rear of the room. "This is it," she thought to herself. "Here are children who are not fully sensitive to the feelings of those about them, but who are interested in all the things that concern them." She felt, too, that in the remark about "Stinky," there was an implied invitation for her to visit upon the class the judgment of society concerning the use of such words in polite circles. Also there might be a problem—very real, even if minor—in the question.

"Where I went to school," she said, "we had a girl with that nickname. I'll tell you how she got it. Her very best girl friend had beautiful red hair, and all her friends called her Pinky. The girls called the other one "Stinky" because it rhymed with Pinky. She laughed about it and didn't seem to care, but after a while the other girls stopped calling her 'Stinky' because they were afraid it might hurt her feelings. . . .

"Now I must find out your real names—perhaps the nicknames will come later. First I will call out the names of those I have here, and then we will get the names of any others."

It took one-half hour to read the names and get the new ones. One of the new pupils had his report card with him. The other did not, but said he would bring it tomorrow. The children lost interest in the mechanics of the registration process, and whispered and talked. Marion did not let this disturb her, for she knew that it would occur. She didn't wish to impose her will unnecessarily. During the name checking, Miss Altonweather came to the door with two additional new pupils, Norma Anderson and Mildred Lane. Marion met them at the door as this conversation took place, and the children sat angelically in their seats. After Miss Altonweather and the mothers left, Miss Johnson introduced the two new pupils by name and helped them to find desks.

"Is there anyone now whose name I do not have?"

There was a pause and then two or three little hands pointed to a boy in the next to the last seat along the windows. Larger than most of the boys, he stared back at his accusers and his lips framed the whispered words, "Shut up," as the pointing spread.

"He didn't pass," two or three sibilant whispers reached all who were in the room.

"Oh! I have missed someone," Miss Johnson said and there was concern in her voice. "I am sorry." She walked back along the windows toward the boy. "What is your name?"

"Jack."

introduced, and had time for a quick glance over her room before the bell rang and she took her place in the hall.

THE FIRST CLASS

Most of the children came in with a surge, though there was a semblance of grade lines hanging over from a previous year's organization. Those who came first rushed in excitedly, and Miss Johnson could see through the door that they were anxious to claim certain seats or be near favored friends. Some smiled shyly as they passed her, a few spoke politely and with confidence, some giggled with embarrassment, but the majority ignored her for the moment, except as they eyed her with varying types and degrees of interest. Two children new to the school had to be directed to her room by others. Two others came in later in the morning, having been accompanied by their parents and taken first to the principal's office. The halls finally emptied, Miss Altonweather serving as a rear guard in the mopping up operation, and Miss Johnson entered her room—and her profession.

The room became somewhat quiet as she walked to her desk, though one or two conversations continued. She felt that most of the children were for the moment studying her carefully.

"I am Miss Johnson," she said. "I will write it on the backboard. You will soon get to know me very well. It will be harder for me to get to know all of your names, but I will learn them as soon as I can." She remembered that names were sensitive things embedded in the national and social backgrounds of their owners. She remembered that sensitive children often resented their names and their nicknames.

"All people have names," she said, "so that we can tell one another apart. Our parents give us our names and they pick names that they like. Sometimes it is the same name they were given, or it's the name of an uncle or of someone else they like very much. If we all had the same first names, we could not tell one another apart. We wouldn't know how to deliver letters. When we hear a new name, it sometimes makes us think it's funny, but it really isn't. I like to be with people who have many different kinds of names."

A hand went up in the second row, and at her nod a little bullet-headed boy with a close crew haircut said, "Lots of the kids have nicknames." (He was Russell Dickinson, she learned later.)

"That's the way it was when I was in school, too," Miss Johnson said. "People often pick out nicknames for their friends. Boys have them more often than girls, I think. We will have to talk about nicknames sometime." But that didn't settle it. The same boy spoke again, "Some of the nicknames ain't nice. One of the boys has a name we call 'Stinky.'"

The effect on the room was immediate. Pleased anticipatory grins ap-

the books into three piles, but Albert Ericson had pointed out that it would be hard to make it come out even that way—that since there were five books, there should be five piles. Marion had not seen this possibility herself, and she regarded Albert with friendly interest. Here was a young man who might be of great assistance in the arithmetic program for the year. She remembered his name easily, though this had been his first contribution. He was a quiet boy, thin but not skinny, and every so often he ran his fingers along the groove at the top of his desk as though brushing off imaginary debris from an eraser.

At 10:55 Miss Johnson started to bring the discussion to a close. After several unsuccessful attempts to silence those who were still anxious to speak, she finally waited in complete silence at the front of the room until all attention was drawn to her. She had waited expectantly and the children "read" her expectation. She quickly requested them to take the same seats tomorrow that they had today so that she could try to get to know their names, told them that at some future time they might take up the problem of selecting new seats, and said that tomorrow they would go on with the job of passing out books. She took time to remind the new students to bring the cards they had forgotten, and she found a chance to smile a friendly smile at Jack as he walked out with a sort of timid swagger. As two of her little girls walked down the hall, she was sure she heard one of them say, "She's awful nice," and though she knew it was foolish to be so pleased at a child's remark, she walked back into her room with the nicest feeling she had experienced in a long time, and then for a fleeting moment, she thought of her mother.

RECONNAISSANCE

She had from eleven o'clock until 2:45 to spend as she wished. She decided to fix up her attendance report at once and then look over the room records. First, however, she made some notes:

- Check on John Littlejohn
- Find out about "Stinky"
- Remember the names of the new pupils
- Albert Ericson—mathematics
- Interest in names and nicknames
- Interest in passing out books fairly

There was a folder for each child who had been promoted from the Pleasant Valley third grade. Inside the folder there was a health record card and a test record. On the folder itself there was the customary information found on cumulative record forms—spaces for yearly attendance records and subject marks, place for teachers' notes headed *Anecdotal Record*, and profile records of many of the tests given. In some of the

She wrote it carefully on her list. "And what is your last name?"

"Littlejohn."

"His name is Hammond," a little girl's voice corrected, "it isn't Littlejohn at all."

Jack's eyes were down and his face a blank—neither surly, nor hurt, nor embarrassed—just blank.

"I'll put them both down," she said. "It doesn't matter which so long as we know that it is Jack." This was no time, she knew, to determine if it was Hammond or Littlejohn, Jack or John. It was no time, either, to send him back to the third grade.

Marion had seen a comedy skater on stilts one time and, as he skated among obstacles on the ice, the audience set tense expecting him to fall. She felt at the moment that she was skating among obstacles, but it wasn't a comedy act. What a swarm of personalities! How fast the problems presented themselves! The first week suddenly stretched before her as a very long period of time.

"Now we must get at the books," she said. "We will each have an arithmetic book, and a reading book. Perhaps later we will have a health book and a spelling book. How should we distribute the books?"

A number of hands went up, and there were many suggestions. Miss Johnson simplified them and wrote them on the board under the heading, *How to pass out the books*. After a few minutes, she had the following list of suggestions: (1) Let monitors do it. (In that school, she discovered, monitors were the pupils in the front seats of each row.) (2) Form in rows and pass by the table in front of room. (3) Let teacher pass them out. In simple words, Miss Johnson then raised two questions. (1) How should she go about getting a record of the numbers of the books so that ownership and responsibility could be determined? (2) Some books were newer and cleaner than others. "How can we be fair about passing them out?"

Again there were many suggestions. Miss Johnson saw that time was passing quickly, but she decided that the discussion was worth-while. The children were interested. The problem was a real one in human relationships. She was getting to know a few of them. She saw that the problem of being efficient as a group was interesting to them, and that the fairness of the distribution had meaning for them. Some of the discussion was noisy and there was a tendency for many to talk at once.

It was decided finally, that there should be five committees, one for each book. They would arrange the books into five piles of equal size. In one pile would be the books that were in the best condition, in another those just below the best, in another the average books, and so on for five groups. Then each child would get one of his books in each subject from each of the five piles. At first they had decided under Marion's guidance to divide

a little girl three years old. He tries to be nice to John—course, he's strict—but Mr. Littlejohn—that's the real father—comes to see John now and then and causes trouble. John doesn't cause *me* any trouble, though, and I told Miss A. I thought he was improving some so we decided I'd keep him another year."

Marion walked on a few steps, trying to plan her next words. "I liked him, too," she said. "I talked to him a little. I rather thought I'd like to keep him, too, and see what I could do. Of course, if he's doing well in your room and you think he should stay there, I'll have plenty to do without him."

Miss O'Leary didn't answer at once, and Marion, beginning to feel uncomfortable, changed the subject. "That Albert Ericson certainly seemed like a bright one," she said "I'll bet there was no question about promoting him."

"We think he's a genius," Miss O'Leary responded. "Behind his back we teachers call him 'Albert Einstein.' He is good at everything and everything has to be just so for him. He's just the opposite of the Littlejohn kid. Albert's work is always in on time and it's neat, and he feels worse than you do if he makes a mistake. His father is a farmer who's had lots of tough luck. The mother's an invalid and the father was crippled in a tractor accident. They both come to P.T.A. They work hard and have lots of pride. Say, maybe if you want that Littlejohn kid, Miss A. would let him stay. I'll talk to her about it. She'd think it was funny if you asked."

"I like her," Marion thought as they parted in the hall. "She's big and robust and a little bit homely, but she's jolly and self-confident and somehow, I like her."

Back in the classroom, she took inventory of some of the rest of her resources. The Pleasant Valley School was an old building built in 1903, to which a new addition had been added just before the war. The old part was made up of a first floor over a half basement. The basement contained toilet rooms, a furnace room, and an activity room; the first floor housed the three upper grades and Miss Altonweather's office suite. The new addition was built at ground level and was a half flight below the level of the first floor of the old building. It contained a kindergarten and the first five grades, besides, toilets, a teachers' room, and the combination gymnasium-auditorium. Miss Johnson's room was a pleasant room on the west side of the building.

In her room she found a fairly new *World Book* and an old set of *Comptons*. There were blackboards on the back and front walls and cork board all along one side. A partition separated the back of the classroom from the cloak hall. The room was larger than many classrooms she had seen, and there was space for 40 movable desk-chair combinations in

folders there were papers. She found two descriptions of behavioral problems carried on from the second grade with the teacher's notes appended explaining how the affairs had been handled. Also there were a few drawings labeled as an example of "the best work"—some good bird pictures by Gail Hopkins, a picture of a running boy by Andrew Larson, and some designs by Mona Carew and Stanley Smith. In Julie French's folder was a sheet of paper from the second grade on which was written:

Julie French

People in Books

People in books are not people We
dream them people to be with us

There was another folder titled, *Class Records*. In this were summary sheets of how well the class did on various tests. There was an I.Q. distribution, an attendance summary, and the like. Marion knew she would spend lots of time the first few days and weeks referring to these records, but now it was time for lunch.

She went with the other teachers on what turned out to be a rather gay and happy excursion to a pleasant if somewhat smoky restaurant on the main street some four blocks away, where a limited menu of plain food was offered. She and the other two new teachers had many questions to ask about the school and the town—about where the others lived, about community standards, and the many other things young adults wished to know about any new place in which they live and work. Most of the questions dealt with rooming and boarding places, community leaders, stores and shops and recreation, and with the school—the frequency of P.T.A. meetings, the types of parents encountered, the fault-finders in the community, and so forth. Marion knew that it was "surface" information, but valuable as far as it went. She learned that the teachers referred to Miss Alton-weather as "Miss A." It seemed both appropriate and convenient.

On the way back to school she walked with Miss O'Leary, the third-grade teacher. Miss O'Leary had been at Pleasant Valley five years and had taught for several years before that. Marion could not help asking about the Littlejohn boy.

"I didn't see him around school today or I'd have come and got him," Miss O'Leary confessed. "He's a tough little nut if there ever was one. We have all tried to help him, but he won't be helped. You never can tell what he'll do next. He lies and cheats and then he's good for a while. He won't study except by fits and starts. He comes from a broken home, you know. His real father is no good—left home when John was a baby and ran around with other women who were regular tramps. John's mother got a divorce and married Mr. Hammond when John was five. He's older than she is, and works at the bottling works. They have a child of their own now—

teachers seemed content that she should. At the same time, they appeared relaxed and friendly. They laughed at the little reminiscences that bobbed up from recent years in the school. Most of the questions raised by the teachers concerned routine matters. Do you want us to take the same positions in fire drills as we did last year? Did the Superintendent get the new hectograph? Would last year's restrictions still apply to the use of construction paper and other supplies? When would Miss Altonweather wish the seventh- and eighth-grade teachers to select telephone girls? Many of the questions that might have been asked were already answered in three pages of instructions and rules that Miss Altonweather distributed.

"What about the curriculum I should follow?" Marion asked finally.

"Each teacher's desk has a curriculum drawer," Miss Altonweather answered. "There you will find the state courses of study, and local rules and regulations from the Superintendent. From time to time I will provide you with outlines of projects and activities I would like to have you carry on. I have asked all the teachers to save the old *State Course of Study*. Much of the material in it is old and you will have to bring it up-to-date. Of course, the new ones are very fine, and you should use them to make your daily program and to plan your lesson plans. Another thing is that there is much new material in the new textbooks that isn't even in the old course, and sometimes the new books are organized so differently that the same material doesn't even fall in the same grade. If you need me after you get started I'll help you out with it."

Before they adjourned, Mr. Adams, the janitor-engineer, came in and was introduced to the new teachers. A pleasant man of medium stature, he appeared to be in his late forties or early fifties. "We consider Mr. Adams one of the staff," Miss A. said. "We wouldn't know what to do without him."

As the meeting ended (it was almost five), Miss Altonweather asked Marion and Miss O'Leary to stay a moment.

"Miss O'Leary says you'd like to keep John Littlejohn," she said directly and with no show of feeling in her voice.

"I would like to, if I may. Yes."

"He'll be a difficult case for a beginning teacher. If he fails, you'll have him next year, too."

"Perhaps I'm foolish to ask for him. If you think I shouldn't. . . ."

"Oh, no, take him—take him. Miss O'Leary says she'll help you with him. We'll see how it goes. I'll call him in in the morning and tell him he's promoted on trial."

STARTING THE FIRST FULL DAY

The second day started without sufficient preparation, Marion knew. She had put up a few things that she had collected for the occasion, but

neat rows and for the round library table and the rectangular work table in the rear. There was no work bench, she noted with regret. Her desk in front was close to the children. There was a 16-inch globe hanging from the ceiling and a small map case was over the blackboard in the front. The room had not been painted for four or five years, but the drab color did not show the dirt. The curtains were not bad—"Not good," she muttered to herself in fun, "not bad, but not good!" There was a pile of small dictionaries that showed little wear—and a larger abridged edition. There were bookcases set in under the windows. The heating and ventilating were of the unit type and the units were placed under the windows, too. There was a sectional bookcase in the front, but no books—obviously they were stored elsewhere. A built-in bookcase behind her desk contained the textbooks, some supplementary sets, and various other items of fourth-grade equipment—cheap rulers, scissors, paste jar, paint boxes, brushes, pans, and paper.

In her desk she found one drawer devoted to the curriculum. There were various new state courses of study that even a casual glance showed to be full of valuable materials, and, in addition, a large, old graded course of study and a mimeographed county course of study. There were some curriculum bulletins from the local Superintendent's office, and pamphlets on bicycle safety, first aid, the Red Cross Blood Bank Program, and so forth. She found also the teacher's manuals that were prepared by the publishers to go with the adopted texts. These showed much more evidence of use than the curriculum bulletins. She had read and heard that even today textbooks frequently comprised the only real curriculum used in the schools!

THE FIRST FACULTY MEETING

It was 2:45 before she got to the bottom of the curriculum drawer, and she hurried to the office. Miss A., after greeting them pleasantly and professionally, devoted most of the first half hour to various routine descriptions of records and school rules. She found no fault with anyone, and took occasion to mention her pleasure with the work of all, particularly the new teachers.

Marion studied Miss Altonweather with interest. She had learned at college that the atmosphere of a school is greatly influenced by the principal. She knew that ideally the principal should be the first one to call on for assistance, the one to carry on and direct an in-service training program and be in every way the tower of strength and good will in the school. She knew, too, that not all principals approached this ideal. Marion had her own conception of the ideal classroom. The principles underlying that classroom were equally valid, she thought, for the relationships in a school between all members of the staff.

Miss A. did most of the talking, and Marion noticed that the older

committee for readers," and she went on to explain in more detail. The children reacted with pleasure to the suggestion and it was carried out quickly with only slight coaching. Miss Johnson tore some sheets of white paper into squares and had each child write his name and number on his square.

She then raised the question of how to rate the books. She recalled Albert's plan to divide them into five equal piles, one pile to be the best ones, one the poorest, and so forth. She assigned the groups to various parts of the room and asked the boys to carry the books to the proper stations, reminding them to ask questions if they needed help.

They seemed timid at first about moving their seats out of the neat rows in which they were arranged, but with a little coaching and directing, they moved fairly quietly to their places and were soon at work. There were eight pupils in the first group and seven in each of the four other groups. There was some noise, of course, and a few discussions took place, but Miss Johnson was able to answer questions quickly enough and move about often enough so that the initial work progressed fairly well. She soon had to help one group decide on certain standards for rating. She helped pick a "good" book, a "poor" one, and an "excellent" one. Then she briefly called for the attention of the whole class and showed them the three books, telling them how that group had decided upon them. "Try to plan how to do it," she said. "If you don't know what to do, talk it over. Perhaps each group will need to elect a chairman.

"Who can tell us what a chairman is?" Miss Johnson asked.

Mary Friswold was called on first. As she spoke, Miss Johnson moved toward the blackboard again and prepared to write the definitions that were offered. It appeared at once that the children were not prepared to say what a chairman was, and that they had not had previous free experience in selecting their own chairmen.

"My mother is chairman of the Study Club," Mary had said glibly. "She sits in front and tells them who may talk and what to do next." Mary seemed self-confident, sure of her status in her group, proud of her mother.

"That is good," Miss Johnson said, and she wrote after number 1, "The captain of the group." Then she said, "How do we get a chairman?" The best answer came from Gail Hopkins who had been a member of the "Blue Birds." Miss Johnson wrote, "2. Elected by the group." It was clear from most of the remarks that the children did not understand about nominations and how voting took place. "We will have to study about chairmen and the rules about how to run a meeting, but we won't have time today. Perhaps today each group can talk about it and select a chairman that way. Then later we'll learn a better way to do it. The chairman will have to be the captain of each committee and call on the others to

there had not been time to brighten the room as she would have wished. Interesting materials were not spread around the room and the bookcase was still bare. It was not yet, she knew, the stimulating learning atmosphere that the curriculum books talked about.

Marion's main objective of the day was to combine the chore of getting started with the discovery of how well her pupils could work with one another and with her and, of course, to continue getting acquainted and becoming known.

The roll was taken, but not uneventfully. A number of children came in a minute or two before the bell and moved busily about the room. One or two were vociferously trying to decide whether to take their sweaters off or leave them on. One girl took her sweater off and put it on again to be like another across the aisle. Then two boys entered, loudly and roughly pushing and shoving one another. Marion was near the door and moved near the boys. No sustained interests had yet been developed to interest the children, and unrestrained activity might lead too far. The boys paid no attention to her. One grabbed the other's foot, and down they went, wrestling furiously. Marion stepped up quickly, as a circle of small on-lookers formed. She placed her hand on the shoulder of one of the boys, but she smiled as she said firmly, "It's time to get to our seats quickly so we can take roll." There was still noise and discussion as the boys started for their seats. Two of the "sweater" girls had apparently paid no attention at all to the boys. The final bell was Marion's signal to start calling the names. After three or four names, the room was quiet. It was then that Marion discovered that her legs were trembling as they had a time or two at "elocutions" when she was herself a pupil. Everyone was present, including John Littlejohn. Marion reviewed the plan they had decided upon for the distribution of the books. She had to decide whether she should determine the number of committees needed and assign the children to them, or let the pupils try to work it out. She decided to let them do the planning as far as possible.

"How many committees will we need?" she asked.

"One for each book." "Five," came the answers.

"Any others?" she asked, and she gave them time to think as she wrote the names of the books on the board, but there were no pertinent suggestions.

"How shall we select the members for the five committees?"

There was silence for a minute and then the suggestions that were made were not constructive. "I have an idea," Miss Johnson said. "Do you know how to count off as they do in the army?" The children didn't know. "Well, we could start in this corner; the first one would say 'one,' the next 'two,' and so on, until you get to five. All those who are 'ones' will be on the

with their fellows. She had involved her pupils in a project of interest to them, concerning the moral concept of fairness and the democratic idea of equal treatment for all. She had brought them up against the problem of parliamentary procedure and rules of order. So far, the developing situation had held sufficient interest for all the pupils so that individual behavior had not been troublesome.

Miss Johnson walked from group to group as they worked, trying to limit her contribution to assisting rather than to making decisions. Requests for help were frequent, but not overburdening, dealing with such questions as how a book should be classified or how to pile the books. She tried particularly to find something for each child to do. There was a good deal of noise but she saw that little of it came from discontent or disorganization, but rather from inexperience in this type of work. (One set of books had a few badly delapidated volumes.) She suggested to some that they fit loose pages into the books at the proper places. She talked informally with a few children, getting acquainted and repeating their names. Some timid ones seemed embarrassed at this, and she did not persist in "drawing them out," being content to be friendly and wait. Some pupils were detailed to see that legible book numbers were inside each book, and were given slips to insert in the books that needed numbers.

The daily program called for outdoor physical education and recreation at 10:30. The group did not have time to finish sorting the books before the bell rang. The children liked to look through the new books as they sorted them. The children in previous years had written their names in the books, and this was a source of some interest which Marion did not discourage. Education is an intimate thing and is tied up with lots of little conversations about people we know, and things we have experienced. After recess, the children came back to their group seats and continued their work until it was finished at about 11:15.

"It is important in our room," she said, "that we treat every boy and girl fairly. We have divided the books into piles and now we must pass them out so that each one gets a book from each pile. How shall we go about passing out the books? Perhaps you could talk it over in each group for just a minute or two, and see if each group can decide on a good way to do it. See if all can agree. When any group has decided and is sure it has a good plan, the chairman of the group may stand; and when all groups are ready, if they don't take too long, we'll hear reports from them."

Marion was improvising as she went along, selecting techniques that had been suggested in college. This one had occurred to her at recess as a good starting point. It was a chance for her to study her groups, as she moved about the room again, notebook in hand. She thought the children attacked their problem with more efficiency than they had shown in the morning,

talk when they raise their hands, just as a teacher does. The chairman must not talk too much, but must let the others talk. If you can't agree, the chairman may ask me what to do next."

Miss Johnson moved quietly and pleasantly from group to group. A waving hand from a group in the far corner dropped when she glanced over and said, "I'll be there as soon as I can." In one group, Russell (the redhead) said, "I want Roger (Roger Schorn) for chairman. He's the best one"; and Helen said, "I want Janet (Janet Kremer)." "We don't want no girl for chairman," Russell replied, and then the argument was entered by two others. Miss Johnson moved to the table and listened intently for a minute or two. She knew that she could settle the matter with a word or a suggestion, but she did not want to spend her year "managing" the room. Furthermore, that was something the pupils should learn to do with constantly increasing skill if they were given the chance. "Well," she said, "You need a chairman, and you need a secretary, too. I'll come back in a minute and see what you have decided." As she left, she heard someone say, "Janet could be secretary," but she heard objections to that, too.

In two groups, the chairman was picked without difficulty. In Albert Ericson's group, he was suggested at once and the sentiment for him was spontaneous and unanimous. In Mary Friswold's group, Mary announced as soon as the question came up that she would be a chairman. "I'll be our chairman," she had said. "I know how to be a chairman. I'll show you how." Miss Johnson detected some uneasiness on the part of one or two, but no protest was raised as Mary took over. For one group, Miss Johnson served as temporary chairman, received two nominations, and had an election in which Judy Norman was elected over Geraldine Reuther. Another group selected Stanley Smith. When Miss Johnson returned to Janet and Roger, she found that the group had decided that both would be president and both would be secretary! Since the children seemed satisfied, and were getting to work on the sorting of the books, she accepted the result without protest. A compromise had been made and an agreement had been reached. It remained to be seen how the experiment would come out.

When she surveyed the room a moment later, Marion felt that she was on the right track. She had heard experienced teachers say that the hardest job in teaching was to get children divided into committees and hard at work. She had been told that even some experienced teachers never succeed in dividing up a class for group activities. She had heard, too, that if there was something you wanted to do, the way to do it was to go ahead and do it. Well, she had her committees! Now she had to take stock for a moment. She was learning more and more about her pupils. She saw some of the leaders, and she saw some who so far had said or done little

but she was sure the participation was far from as wide as it should be. In some groups, one or two were bossing the others far too much. That was to be expected in inexperienced groups, she knew, and its correction would call for careful planning as the year's work developed. Those are things that can't be taught by telling the children not to be bossy or not to talk too much; they must be worked out together.

By 11.30, the last of the chairmen stood up (five minutes after they went to work at it). In the groups that finished first, some of the pupils engaged in the usual spirited conversations, punctuated by gestures and sometimes by behavior bordering on the boisterous. Marion remembered Miss Coyne, one of her favorite teachers, who had taught her in the fourth grade. Miss Coyne would have told the children to sit quietly after they reached a decision (of course, she wouldn't have had them in groups, in the first place) and would have firmly and pleasantly insisted, with a directive hand on head or pressure on arm, that her will be observed. This was sometimes necessary, Marion knew, but she believed that her children would learn more about living if they had a chance to work things out for themselves. To call them to attention, she moved to the blackboard as she said, "Now, let us see what the suggestions are," and she wrote, "Plans for passing out our books," and beneath it she wrote a "1." The suggestions were varied in detail and presented with wide differences in skill. The children had not foreseen many of the difficulties that might arise.

One had said, "Have everybody get in line and take one from each pile. Somebody could be at each pile and give them a book."

Mary said, "Have Miss Johnson pass them out so that they all come out even."

Roger was nervous and found it difficult to talk. His first few words were interrupted by a giggle, which he suppressed with an effort. "I don't know if it'll work very good or not, but you could put the books into piles and each one could get one."

When the reports were all done, Miss Johnson had written:

1. Form into a line—get a book from each group
2. Have someone at each table.
3. Have Miss Johnson pass them out.
4. Arrange books into piles of five each.
5. Each one should take the top book in the pile.
6. No one should cheat.
7. We have to know which ones get the good books and which ones the poor books.

There was a brief discussion of the suggestions, stimulated and guided by a few questions from Marion, and quick agreement on a method. There

remained 15 minutes in which they discussed their experience working in committees and what they might try to do to improve it. Additional notes were placed on the board as this discussion went along, such as, "How to talk together as friends—conversation." A number of children expressed a wish to distribute the books immediately after noon as they wanted to look at them and get their "assignments" in them.

DIRTY DIG OR CHANCE REMARK?

"How is John Littlejohn doing?" Miss O'Leary asked at noon. "Is he down to work?"

"So far, so good," Marion answered noncommittally. "He has done what the others have done. He seems quite content." She didn't want to explain what she was trying to do until she could see how it was developing. There were more important things for John Littlejohn at the moment than to get him down to work. That should come later and be an outcome, not a method. Other questions bothered her a bit more. They came from Miss Janisch in the second grade.

"How do your children behave?" and then, "I thought I heard some noise from down the hall. Miss O'Leary always said they were a nice grade, too, but then she never has any trouble."

Marion had been warned to expect this reaction, but she hadn't expected it to come quite so unadorned and soon. Certainly, human behavior was predictable, even when it came to teachers! In her courses in group dynamics, Marion had learned enough to know that such questions frequently arise from insecurity or doubt on the part of those who ask. They should not be met with anger.

"I hope we didn't bother you," she said and there was no edge of sarcasm in her voice, for she was sure that in her procedure so far she was on the right track; although she was not yet confident of her ability to carry it all out as she wanted it done. "We are still quite informal."

Children want to learn, but do not always know what they are learning. It is well that they see the reason for what they are doing. This gives point and intent to their work. It also allows them to answer intelligently the parental question about what was learned at school that day. These were things that Marion had remembered from many of her college courses. She wanted to bring them into focus that first afternoon.

Wednesday, after lunch, they used the first half-hour in distributing the books, and the second half-hour looking through them and discussing them with her. She noticed that the geography book and the language book got the most attention. These were new "subjects" to the fourth-graders, and most of the questions were about geography, about the manners and customs of the strange people shown in the pictures. After a while the

questions began to take the direction of what they were to do with the books—what they should read and study.

"We were talking about names yesterday," Miss Johnson said. "I would like to have you look through your geography books and your readers and see how many names you can find to write down before tomorrow morning. If a person's first name and a person's last name are both given in the book, write them both down. If only the first name is used, or only the last name is used, write that down."

PUPILS ASSESS THEIR LEARNING

After the afternoon recess, Miss Johnson said, "Perhaps we should review what we have learned yesterday and today, and what we have found we do not know that we need to know."

There was a pause. The children were trying to recall something they had learned—they had read no assignments, memorized no facts, drilled on no skills.

"I'll write across the top of the board two titles: 'Things we have learned,' and 'Things we need to learn.' Can someone tell me something we have learned?"

There were puzzled faces, but no answers.

"Perhaps I can help you." Miss Johnson said. "Everything we do at school, we should do for some purpose because there are so many important things to learn. We learned, didn't we, that all children have equal rights so we divided our books equally? I'll write that down. Then we learned how to count off as soldiers do, in order to form committees. I'll write that, too. Now what else have we learned?" The room had come alive—a dozen hands were asking for recognition!

It was at this fortunate point that Miss Altonweather paid her first visit to the room. Perhaps she, too, had heard some noise that morning! As she walked to the rear of the room, the children straightened virtuously in their seats, but their desire to recite was not dampened.

"We learned to appoint chairmen."

"We learned to make committee reports."

"We learned to appoint two chairmen when we got a tie."

"We found out how to get together on one plan."

Many other items were mentioned and as each point was raised, it was discussed briefly, and then Miss Johnson wrote it on the board in simple form. Then they shifted over to the other list—"Things we need to learn."

"I was secretary of our comm—comm—of ours, and I didn't know anything to do."

"That's a good point," Miss Johnson said, and she wrote, "What does a secretary do?" Each time she got a response, she contrived to pass out a

word of praise, an approving nod, or a friendly smile. Only once or twice did she reject a contribution, and then she did it with great care.

"I can see that you have a good idea," she said once. "We may discuss it some other time, but it doesn't fit in here. You're doing good thinking, though. Keep it up."

The children wished to learn about parliamentary procedure and they decided to talk it over with their parents and friends that evening if the opportunity arose. Miss Altonweather stayed as the children passed out, and complimented Marion on the way the children had responded. Marion was not sure, but she thought Miss Altonweather seemed rather pleased. Marion, too, was pleased.

She found her first full day drawing to a close and she realized that she hadn't been cross once. No child had created a violent disturbance. She began to feel that the professor had been right who suggested that when anything went awry, it was not important to affix blame or to "take steps" to insure that it never be repeated. Rather, each incident, be it a learning difficulty, a behavior difficulty, an attitudinal difficulty, or even a discipline case, should be approached calmly by the teacher and the children as an interesting problem between friendly people. The professor had said that most of the bothersome, old-fashioned disturbances disappear in such an atmosphere.

A QUICK ASSESSMENT OF INDIVIDUAL DIFFERENCES

Wednesday after school, although Marion was dreadfully tired from her first day of teaching, she knew she would find the work less exhausting if she found out as much as she could about the class. She decided to get some first impressions concerning the range of individual differences in her classroom as shown by the test results on file. A glance at her records showed that there was a Detroit First Grade I.Q. for most of the children, and there was a second- and third-grade score in vocabulary and reading comprehension as measured by The Unit Scales of Attainment. This was little enough, but she examined it thoroughly for what it would show. She glanced first at the intelligence quotients as they were shown in September three years ago when the children were beginning first grade. She arranged them quickly in rank order and found that the 33 listed I.Q.'s ranged from 72 to 141. There was an 85, an 86, and there were two at 141, a 130, a 126, two at 125, a 124, and a 120. The median I.Q. was 99. These I.Q.'s, of course, were three years old. Marion wished that a more recent intelligence test record was available.

The reading scores for the third grade were not yet one year old, having been taken the previous November. The chronological age of the children

RANGE IN INTELLIGENCE AND READING
ABILITY OF FOURTH-GRADE IN TERMS OF
FIRST-GRADE INTELLIGENCE TESTS
AND THIRD-GRADE READING TESTS

RANGE FROM LOW TO
HIGH IN DETROIT I Q 'S
FOR 32 FIRST-GRADERS
NOW IN FOURTH GRADE

RANGE FROM LOW TO HIGH
IN READING GRADE LEVEL
FOR 32 THIRD-GRADERS
NOW IN FOURTH GRADE

	<i>Vocabulary</i>	<i>Comprehension</i>
72	1.	1.
85	1.	1.
86	1.2	1.
88	1.6	1.6
89	2.6	1.6
92	2.8	2.4
94	2.8	2.5
95	2.8	2.6
95	2.9	2.6
96	3.2	2.8
96	3.2	2.8
99	3.6	2.9
99	3.6	3.2
99	3.9	3.6
99	3.9 Median	3.6 Median
99	4.0	3.6
99	4.0	3.6
103	4.2	3.8
103	4.2	3.9
104	4.4	4.0
105	4.4	4.2
111	4.6	4.4
113	4.6	4.6
120	4.9	4.6
124	5.8	4.9
125	6.5	5.2
125	6.5	5.2
126	6.5	5.8
130	7.9 +	6.5
141	7.9 +	7.7
141	7.9 +	7.9 +
141	7.9 +	7.9 +

that November had ranged from 8.2 to 10.5 years, but the reading vocabulary age had ranged from below 6 for two children to four others who were above 13. The reading comprehension age had ranged from below six for three children to two above 13. Reading vocabulary scores in the third grade had ranged from below first-grade level for two children to eighth grade or above for four others, while reading comprehension had ranged from below first-grade level for three children to eighth or above for two at the opposite extreme. Here indeed were the individual differences

the personality and ability of each individual child. There was Albert Ericson whose I.Q. in the first grade had been 125. When tested in the second grade, with a chronological age of 6 years and 10 months, his reading vocabulary age was 9 years and 10 months and his reading comprehension age was 9 years, 7 months. In the second grade, he had read as well as the average child in the fourth grade. This reading ability had held up in the third grade. There, with a chronological age of 8, he had a reading vocabulary age and a reading comprehension age of over 13. In the third grade, he was reading on the eighth-grade level or better. Mary Friswold's case was interesting, too. She had a Detroit I.Q. in the first grade of 113, but her reading age in the second grade was 10 years and 8 months in vocabulary and 9 years and 10 months in comprehension, while in the third grade her reading vocabulary was over 13 years and her reading comprehension was 11 years and 8 months. Marion guessed from these reading scores that when Mary was tested again, her intelligence quotient would show higher than 113. There was Ray Sheldon whose Detroit I.Q. in the first grade was 141, but who was reading slightly below the second-grade level in the second grade and barely on the third-grade level in the third grade. Ray had said very little in class so far, but had watched her with great, alert eyes in which there seemed to be a world of curiosity, but very little friendliness—or unfriendliness either for that matter. Then there was John Littlejohn with a Detroit I.Q. in the first grade of 103 and a vocabulary and comprehension score at the beginning of the second grade that was about middle second grade, but whose reading ability in the third grade had shown practically no improvement over his reading scores of a year below. If these test results were adequate and reliable, they indicated that John had made no progress in his reading during the year between the beginning of his second and third grade. Certainly Marion needed to know more about John Littlejohn.

Roger Schorn also had a Detroit I.Q. in the first grade of 103, and he had been only slightly better than John in vocabulary in the second grade, but had made a middle third-grade score in comprehension. The following year, in the third grade, his reading vocabulary score was 2 months into the fourth grade, and his reading comprehension score was 4 months into the fourth grade. The test scores on each child showed a little something low in the second grade but a bit above average in the third grade; while there was the 124 I.Q. (Janet Kremer) who was below average in reading in the second grade and only slightly above average in the third grade. There were the many I.Q.'s between 90 and 111 that were approximately normal in second- and third-grade reading.

Marion asked Miss Altonweather about the test plans for the current

year. She wanted another intelligence test score on each child, and she hoped to get some other test results besides reading. Miss Altonweather said they always had the Otis Group Intelligence Test and the Stanford Arithmetic Test early in October for the fourth grade. She agreed with Marion's ideas and seemed pleased that she came to her with them. She doubted, however, that there would be funds for any more testing than was presently being done.

Marion also asked about bringing library books and supplementary books to her room, and about the purchase of a weekly newspaper. Did she have permission to take field trips? Miss A. seemed pleased at her questions. She told her to feel free to check out books for her room and told her that field trips were permissible. She should ask Miss Altonweather about them beforehand so as to be sure there were no conflicts and that all necessary precautions were taken. She obtained permission to take up a collection for a weekly newspaper.

She received immediate permission when she asked Miss A. if she could require each child to purchase a small ringed notebook for assignments and brief notes. Miss A. knew the kind to ask them to get—one that was stocked by the local stationer. She had some on hand and gave one to Marion to show the children. "Tell them," she said, "that if any of them can't afford to get one, to let you know privately, and you will see that one is provided. They hardly ever do, but it forestalls criticism."

SEARCHING FOR INTERESTS

By Thursday, Marion was beginning to make the room look a bit more interesting. She had gone to the textbook storeroom and to the library. In the textbook storeroom she had found copies of the pre-primer, first reader, second reader, and third reader adopted as basic in Pleasant Valley. She brought one or two of each of the lower-grade language books and spellers to her room and three or four of each of the readers. She also found some supplementary readers used in the lower grades and brought copies of those. Miss Altonweather had discouraged bringing either the regular readers or the supplementary readers for the fifth and sixth grades to her room, since she thought that might destroy the interest of the children in those books when they were promoted to the next grades.

Marion found the library somewhat limited, but nevertheless there were many good things. She was able to find a lot more than she might have found in many schools. She found single copies of some fifth-, sixth-, seventh-, and eighth-grade readers and some fifth-, sixth-, seventh-, and eighth-grade geographies as well as miscellaneous textbooks for both lower and upper grades. She looked particularly for science materials.¹ She

¹ See references and treatment in Chapters 17 and 18.

wanted science materials hard enough and advanced enough to challenge the best abilities she might find in her room. She found a few very recent children's books with science background, such as *The First Book of Submarines* by Icenhower, *Experiments With a Microscope* by Becler and Branley, and *The True Book of Time* by Ziner and Thompson.

Miss Johnson had subscribed to a daily newspaper and she brought it to school each day. Two metropolitan newspapers were available in Pleasant Valley and Marion had chosen the one whose comics had a scientific background. Children, she knew, became interested in science in many ways, but one of the places where they picked up ideas, both true and false, was in the strips that dealt with such things as flying to other planets, highly scientific warfare, and crime detection.

Thursday morning Marion arrived at school earlier than usual. She had been searching in her mind for ways and means to find or to develop interests that could start the children on their learning activities. She knew that if she were to succeed in having the children experience a wide range of learning activities, she would have to assist them in finding materials. One of the first skills was to use reference books. This in turn depended upon such basic skills as facility with the sequence of letters in the alphabet. She had an idea the interest she had discovered and stimulated concerning names might lead into a study of the alphabet, the dictionary, and the encyclopedia.

Before the children arrived, she got out some "Zaner-Blosser" letter charts and placed them over the blackboard in the proper order. She cut some plain, heavy, white paper into pieces three inches by 5 inches to be used for filing cards. Glancing through the language book, she saw that there were six references to alphabetical order and five references to the use of the dictionary. Under capitalization, she found a reference to the first initials of names and a reference to making a class list. She was disappointed to find no reference to "index" or "indexing" in the index of the language book. It seemed like a strange oversight in a fourth-grade language book, and indicated something that she was to discover over and over again in her teaching—no single textbook ever proves adequate to the needs of an active learning class. She found that the glossary in the geography book contained the names of children from other lands, with their pronunciations and with their English equivalents.

She knew the arithmetic book by reputation to be a good one, but its index was of no assistance to her. The index was composed almost entirely of terms such as addition, subtrahend, and the like, rather than references to the real life situations that were used to make the basic learnings meaningful. She wished very much that the illustrative problems in the arithmetic book had been indexed according to the subjects with which they

etc. The things she was searching for were means to interest and motivate and give meaning to what was to be learned.

There were many other things that she wished to do, but they would all have to wait their turn. She knew that she must get better acquainted with the children in order to understand their individual interests, aptitudes, and abilities. She hoped soon to talk informally about the things each one liked to do best, the things enjoyed last summer, or what each one wanted to be when grown. She was not sure that the time had arrived for this, however. Many of the children were not free yet to express themselves to her and to the class. They had not learned to speak their real thoughts. They had learned, it seemed to her, to conform, to hide their real feelings, to be suspicious of the adults about them. She knew that it would take a little while to develop the permissive atmosphere that she desired in her classroom. The children had come to expect a subject-centered, recitation-type, traditional classroom, and had developed little individual responsibility or group power. She knew that she must be patient, and wait until she could provide the conditions for such responsibility to develop. She knew, too, that its development would take much doing on her part.

THIRD MORNING

When the children came in at nine o'clock, they took their places without too much disturbance, but with enough so that Marion could not feel completely satisfied. She made a mental note that they would have to work on that. She called them to attention, however, and then said, "This morning I think we should plan our day's work." She expanded on this a bit and then went on, "Perhaps after a while, we will not have to plan each day because our plans will keep us busy for more than a day." She elaborated this point briefly, and then added, "I hope that before very long we can have the children take turns in standing up here and being chairman while we plan, and I will sit down and be a member of the group. Perhaps we can elect officers Friday afternoon if we can get our rules set up." She allowed them to ask questions and for a few minutes they talked in an informal fashion about the election, and then they reminisced a bit about votes they had taken in kindergarten, and in the first three grades. This gave her a chance to see how much they already knew about elections and classroom management.

It was easy for Miss Johnson to make the transition from this discussion to the question concerning the assignment they had given themselves the previous day to find out about rules of order, parliamentary procedure, and so forth.

She asked, "How many talked to their parents and friends last night

about how to run a meeting? You remember that we decided we would find out as much as we could so that we might talk about it today."

Eleven hands were raised, with one or two others half raised in an indefinite, desultory way. Marion noted this number as a bit of group evaluation.

"Whom shall I call on first?" she asked. The hands waved more insistently. "Does it make a difference whom I call on first?" The hands waved still more insistently with three or four whispered "Oh's" accompanying the waving. "Sometime we will have to decide on how to select the ones who are to talk first. Today I will start with this row by the wall and go across the room."

Five of the reports contained information valuable to the group. Mary Friswold had learned a lot from her mother about making motions, taking votes, and recognizing the speaker. Andrew Larson's father was secretary of his union and Andrew was able to tell a little bit about the way union meetings were run. Milton Lieberman's father was active in a number of Jewish organizations and had obviously helped Milton with his assignment a great deal. Albert Ericson had gone to the county library sub-station downtown and had asked the librarian for assistance. She had shown him a copy of *Robert's Rules of Order* and he had done some work with that. It was difficult reading even for him, and he had not gotten into it very deeply. She complimented him on what he had done and offered to help him with it should he wish to continue.

When Selma Toivenen was called on, she rose carefully, brushed down her clean, starched, blue dress, and said primly, "My daddy does that, too, over at the Co-op." Then she sat down as if that settled it.

"That's good," Miss Johnson said. "They must have rules at the Co-op meeting or they wouldn't know how to run the Co-op." Selma beamed.

As on other occasions, Miss Johnson was writing brief notes on the blackboard while the discussion went on. The time was to come when the writing and the deciding on what should be written would be done jointly by children and teacher with one of the children doing the writing. After all who wished to speak had spoken, some who had not done so said they would ask at home that night what their parents might know about running a meeting. Miss Johnson reminded them that some parents did not go to meetings often, and that others might not be able to take time to tell them. "It isn't necessary that everybody find out about this from their parents. We will have other things to ask parents about at other times, and everyone will get a chance sometime to tell what their parents have said." It was desirable, Marion knew, to avoid embarrassing children about the shortcomings of their parents.

Miss Johnson asked them if it would help them to copy from the board the rules that they had found out so far. They thought it would and they wrote them as carefully as possible so that they could take them home and show them to their parents and get further rules to add to the list. It was ten o'clock before Miss Johnson asked the pupils to stop copying the notes. She mentioned that time passed quickly and that some time soon they would have to decide how much time they wanted to spend on various activities. As they had written, she had walked quietly about the room, helping some of them, and watching carefully. This had been her first opportunity to watch the children write, and she made some brief notes in a few cases. She made her notes without attracting undue attention in the process. Often, they were made on brief trips to her desk.

After the writing period, Miss Johnson asked the children to get out the lists of names that they had found in their geographies and in their readers. The three-by-five slips of paper were passed out and the children were asked to write as many names as they could, one name on each slip of paper. She showed them how to write the last name first, a comma, and then the first name, and how to use a straight line where one of the names was missing. The children worked at this task until 10:30. Those who finished sooner were given the privilege of working at anything else they wished. Some read their textbooks; a few moved to the reading table and examined the materials beginning to accumulate there.

In writing the names and capitalizing them, Miss Johnson made reference to the page in the language book where capitalization of the first letter in names (and in some other contingencies) was discussed. After the recreation period, Miss Johnson told the children to save the name slips for later use. She asked those who could do so to arrange their cards in alphabetical order. There were some questions and some confusion when this suggestion was made, so she asked how many knew how to arrange the cards alphabetically. A number of hands were raised but she was not sure from their hesitant manner how many had confidence in their ability. She asked how to find words in the dictionary. If they knew that, she said, they would know how to arrange names alphabetically. She passed out the dictionaries and they discussed and studied them to determine how the words were arranged. There was quite a bit of interest in this activity. Some of the children knew how the words were arranged, at least in part, and they led the discussion. The other children thumbed through the pages and many of them were able to make some progress.

She asked questions about what everyone must know in order to use the dictionary, and they agreed that everyone should know the alphabet. Some already knew the alphabet, they said, and one or two volunteered

to recite it, and did so very quickly. Miss Johnson suggested that some of them might wish to learn to recite the alphabet from Z to A. She said that in a day or two they might have a game similar to a spell-down that they would call a dictionary game. This suggestion was received enthusiastically by many of the children. She said that some of them might wish to study to prepare for this game. By working with the children, she found something for each one to do. Those who didn't know the alphabet studied that; those who didn't know how to arrange words within the letter groupings were asked to study it in the dictionary. Those who felt competent arranged the list of names they had in alphabetical order.

In their discussion, they decided that it would be desirable for each child to have a card index of all the children in the room. This decision was not arrived at spontaneously; Miss Johnson had to hint at it. She told them that if they were to work in groups and decide many of the other questions that had been raised already about classroom management, it would be convenient if each child had a card index of all the children in the room. The class decided that each child would prepare 37 cards upon which he had written his name in neat, legible form. One of these would be given to each child and one to Miss Johnson. This would be of great assistance to the new students, of whom there were four. Those who had time, started their cards immediately. Some of the others continued to work on the alphabet and on the arrangement of the names from the books in alphabetical order.

THE LITTLEJOHN BOY

As they were discussing the desirability of a card for each child in the room, Miss Johnson noticed that John Littlejohn was growing decidedly restless. She noticed this first when he reached across the aisle and struck at Ray Sheldon. When he did this, she looked at him seriously and calmly for a moment and he straightened up in his seat and stared at the desk in front of him. As the discussion went on, she heard another noise, and glancing back she saw that Robert Schultz, who sat behind John, was drawn down in his seat. John had grabbed him by the foot and pulled him forward. When the noise became noticeable, John released his hold and straightened up, whereupon Robert straightened himself in his chair and struck John between the shoulders with his fist. As this was occurring, Miss Johnson moved quietly in their direction. Standing beside John's seat, she glanced down at him and said, "Can I help you, John?" John answered something that sounded like a low, snarled, "Naw." "Have you started to make your cards yet?" she asked. Then suddenly it happened. John was looking at her, the same cold, deadpan expression in his face that she

had seen the first day, but his voice was saying over and over again heatedly, "I ain't gonna, I ain't gonna! I won't! You can't make me! I won't!" His voice was nervous and tight very much like a suppressed scream.

Marion remembered the things she had been told so often in her class in mental hygiene, and she wondered if she had the self-control and the courage to try it now when it was necessary. She felt somewhat as she had felt when as a little girl she was taking swimming lessons. She was sure she would sink, but she knew she had to try it anyway. She remembered how much courage it took the first time. After that it was fun. And now she had to do something that seemed equally difficult to her. She thought for a fleeting moment what Miss Coyne might have done. Miss Coyne would have settled the problem quickly and surely, and she would have done it in a way that would have won the approval of all the "good" little boys and girls in the room. She would have shown John Littlejohn once and for all who was the boss in that room. But Miss Johnson had to make her experiment. She believed that children (and adults, too) respond best of all to kindness and understanding and that severity must only be used when all of its possible effects have been carefully considered. She looked at John and she tried to keep all trace of irritation or of personal insecurity out of her voice as she said to him calmly and firmly, "You are mad at me now. You are very mad at me. Sometimes children get very mad at their parents and at their teachers." And then she turned and walked away from him to the front corner of the room, and continued the discussion with the rest of the class.

At noon, when she had time to think over the incident, she saw where she had made her first big mistake. Two days before, she had sensed that John Littlejohn was not sure whether he was John Littlejohn or Jack Hammond. She had felt that there was social disapproval in the group over his use of the name, Littlejohn. Also, she had discovered that he was a sensitive child and not well-adjusted, and yet she had led him into a situation, without thinking about it, where he had become so insecure that he had to fight back to maintain his status with himself. She was interested in John. She had asked to have him in her room, and had made up her mind, with a wry inward grin at herself, that John's problem would not go unsolved for lack of effort on her part. She knew some of the theory about how to do it, and hoped she would be adept enough to put it into practice.

It had been decided before noon dismissal that those children who had time would try to find at home some examples of ways in which alphabetical arrangements were used outside of school. The telephone book was mentioned at once and one or two children thought they had extra telephone books at home that they could bring to school either that afternoon or the day after.

FIRST WEEK'S ENDING

Thursday afternoon and Friday continued along the lines of Thursday morning. At noon quite a few of the children found some interesting applications of the alphabet in everyday life. Two of the children brought old telephone books to school, one brought a little black address book with alphabetical divisions in it, and another brought an alphabetical shopping-list booklet distributed free by one of the stores. But the most interesting of all was the information that Roger Shorn brought in about the arrangement of the avenues north of Main Street. His father had told him that Main Street was really "A" street; that First Avenue was really "B" street; and from then on the names were all in alphabetical order. There was Cranberry Avenue, Duluth Avenue, Emerson Avenue, Foster Avenue, and so forth. Roger didn't know how far it went, but he thought it went almost through the alphabet. The children were very interested in this bit of information; probably few of them had heard of it before, and certainly none of them had thought about it seriously. Miss Johnson could find no map of Pleasant Valley Township at school, but she thought they could make a map if they could get one to copy from, and two boys, Roger and Oliver, were appointed by their classmates to find a map, borrow it, and bring it to school on Monday morning. It was suggested that they might go to the bank or to the newspaper office or to Mr. Radke's real estate and insurance office. There was some discussion about what size map they should get. The question also arose over how the streets were named that ran in the other direction and also about the streets south of Main Street. It was decided to try to get a map of the whole village.

The children worked on their name cards and on getting sets of names for all the children in the room, though these were not completed by all the children. Two children in the room wrote with so much difficulty that they were far from finished with the proper number of cards. Miss Johnson discovered that two children did not know how to count to 37, so she knew she would have to start their arithmetic there. She had a note of their names. Others completed the cards easily and she had them read in their geography books and write on their cards some brief biographical notes about the children who lived in the various lands, showing one or two of them how to make such brief notes. During much of this time, she walked about the room helping and observing and directing attention to things they seemed in need of knowing.

Miss Johnson had prepared a seating chart of the room with a small square for each child and on this she was able to make many little notes about the children as she located their various strengths and weaknesses. For group work, she had them divide into the same groups that they had

used for the distribution of books. In these groups, they discussed some of the things they had learned about parliamentary procedure. Upon another occasion, in these groups, they worked together preparing a filing system for the whole room. Each child was to have a file folder suitable for holding papers up to eight and one-half inches by eleven inches in size. These folders were to be arranged in boxes at the back of each row. Miss Johnson used her copies of last year's report cards to pick out the children who received "A" in number work the previous year. They were, in general, those who needed extra duties. So she formed them into a committee to decide what size the boxes should be to hold these card files. They thought they could get some cartons the right size at Martinelli's grocery store. She suggested that they write a letter to Mr. Martinelli asking him if he would cooperate with the class, but the committee thought that would be silly—the committee could select members (Milton and Andrew) to call on him

MISS JOHNSON'S DAILY LOG

<i>Tuesday</i>	Got names Planned on how to distribute books—5 books, 5 committees, 5 piles of books
<i>Wednesday</i>	9:00–9:10 Took roll—routine 9:10–9:30 Counted off and divided into committees 9:30–10:00 Discussed chairmen and rules of order, and selected committee chairmen 10:00–10:30 Started sorting books 10:30–10:45 Recreation break 10:45–11:15 Finished sorting the books 11:15–11:45 Studied in committee as a whole group how to pass out books 11:45–12:00 General discussion and evaluation of how they had worked as groups and how to improve 1:00–1:30 Distributed books 1:30–2:00 Discussed books. Noted interesting pictures and stories 2:00–2:30 Assigned making name cards for names in geographies and readers. Read to note names which will be placed on 3 x 5 name slips tomorrow 2:30–2:45 Recreation break 2:45–3:45 Review of what we have learned so far
<i>Thursday</i>	9:00–9:15 Discussion of teacher pupil planning 9:15–9:45 What we learned at home about rules of order. Carried over assignment till tomorrow for those who forgot. Made list of points. 9:45–10:00 Writing—copied list of rules to take home for further hints 10:00–10:30 Made name cards; mentioned alphabet game 10:30–10:45 Recreation 10:45–11:15 Alphabet and alphabetizing 11:15–12:00 Dictionary study. General activity—pupil name cards made so each child may have room file 1:00–1:30 Telephone books and other alphabetical applications learned at home and reported. Alphabetical street arrangement. Interest in a map.

KEVIN	MILTON	SHARON	ALICE	GERALDINE	WARREN
S. Q. 11-11	Future wife in front Comm. Aid. Comm.	High S. Q. low achiever?		Spoke in group chairman. Comm. - Aid. S. Q. Had a poem	New this year
NOLIE	MARY High-achiever, high S. Q. for low? Aid. Comm.	RUSSELL Low achiever. Mentored numerous	ALBERT High S. Q. Aid. Comm. Member boy	STANLEY Artist ch. of group Had poem	JANIE Mother upper upper aid. Comm. Broken home
ESTHER	VOYV Aim of group. Elected not some chairman.	GAIL High S. Q. member Aid. Comm. Father in law's death.	JANET Ch. of group High S. Q. Aid. Comm.	SELMA Had poem in group. Beautiful, with. Good. Happy, with. Good reader	ANDREW Had - unions secretary. Artist
CAROL	MONA Artist	FRANK Low-achiever on side. Below aim	OLIVER Low-achiever on side. Aid. Comm. S. Q. member?	ROGER High-achiever. Ch. of group. Had achievement. Low ability.	MICHAEL New in S. Q. this year. Older than most
JOHN	RAY Chairman. High S. Q. for achievement. High S. Q. for achievement.	HARRY Low-achiever. High S. Q. for achievement.	EDWARD High-achiever. High S. Q. for achievement.	WILLIAM Student some. Low-achiever. High S. Q. for achievement.	CHARLES Had the achievement. High S. Q. for achievement.
ROBERT	HELEN Mother ill.	MARGORIE High-achiever. High S. Q. for achievement.	NORMA New in S. Q. this year. High S. Q. for achievement.	RICHARD New in S. Q. this year. High S. Q. for achievement.	LARRY Broken home. High S. Q. for achievement.

Figure 2. Seating chart and notes—first week.

	1:30- 2:00	Reading about names—started making notes on cards about characters in books
	2:00- 2:30	Group work—started making folders for each child. Decided on folder boxes and where to get them. Arithmetic committee set up.
	2:30- 2:45	Recreation
	2:45- 3:00	Distribution of art materials
	3:00- 3:45	Free reading period
Friday	9:00- 9:20	Taking roll. Why we take roll
		1. Check on health
		2. Everyone safe
		3. State aid and taxes
		4. Credit for school work. Records of education
		5. Good citizenship
	9:20-10:00	Letters home about attendance and state aid
	10:00-10:30	Committees studied letters
	10:30-10:45	Recreation
	10:45-11:15	Some wrote letters Some worked on pupil name cards Some worked on reading name cards Some studied the alphabet and/or arranged cards in order
	11:15-12:00	Some studied how to count Sorted cards and studied names and arranged cards Criticized poor writers Adopted rule "Always write your best."
	1:00- 2:00	Review of week's work. Listed 30 items
	2:00- 2:30	Elected chairman and settled on temporary "rules of order"
	2:30- 2:45	Recreation
	2:45- 3:45	Planned next week's work

after school much easier than that. She had to agree that they were right and that's the way it was done. When they overrode her suggestion in this respect, she had a feeling that she was making progress. Certainly the atmosphere she was creating was not overly restrictive. Certainly the children were thinking realistically about their objectives and the best way to attain them. The class discussed with the committee the kind of boxes wanted, and it was decided that if Mr. Martinelli had plenty of boxes, they should get more than one size and try them out. They also discussed certain rules of etiquette that should be observed as they approached Mr. Martinelli for cooperation, such as how to ask him for the boxes, explain their need, and thank him for them.

On both occasions, so far, when children were called on by their fellows to do errands for the class, the "better pupils" had been selected. Marion wished they had selected John, Ray, Robert, Edward or various others. She knew that this would only come as they gained power in planning and in assigning to each of their fellows duties that would allow everyone to help and that would tend to recognize individual talents and interests. At this point, she did not wish to make such assignments herself. She wished,

rather, to see which of their classmates the children would select in order that she could assess the group structure, and the maturity of judgment that the group would show. She felt that these skills were not highly developed. In order to get that type of measure, she resolved to make a sociogram as soon as a good opportunity presented itself.

Marion's progress with John Littlejohn remained unmarked through Thursday afternoon, but Friday morning he gave her a shy fleeting grin as he entered the room and she grinned back at him in friendliness as other children came by. He behaved well all day but he did not prepare his name cards, nor did Marion tell him to. The work was arranged so that there was plenty else for him to do.

FRIDAY

The Friday morning opening period had been taken up partly with further contributions from children who had learned something about parliamentary law from their parents and partly with a report from Milton and Andrew. The two boys brought in 14 cartons. There was a discussion of classroom management with specific reference to the reasons for taking roll and keeping attendance records. The children contributed some reasons and Marion contributed some until the list was as follows:

Reasons Why We Take Roll

1. Check on health of children
2. Check on safety of children
3. Check on good citizenship—reliability
4. Keep records for credit and promotion
5. How many books to buy
6. How many teachers to hire
7. How much taxes we need
8. State aid money depends on attendance

These reasons were written in their notebooks. Their discussion brought out the need for care on the part of the pupils who would soon take roll. Marion was pleased at the interest the children showed. She found that many of the children thought it was expected that they attend school every day, no matter how good their excuse. Others thought their parents did not know about state aid and would not keep them out of school to shop or to go to the dentist if they knew that.

"What could we do so they would understand that?" she asked.

"We could tell them."

"What would be the best way to tell them?"

"Put it in the newspaper."

"Have Miss Altonweather tell them."

"Write them letters."

"How many think we should write letters about it?"

Over half the hands in the class were raised, but Selma said she didn't think she could help because she had to finish her name cards and her folder file and read about the children in the books.

"How many won't have time to write letters today?"

Many hands were raised, some of them very doubtfully and timidly. Selma had not been timid. She seemed to believe implicitly in the kindness and friendliness of her environment and in the simple happy rightness of being "Selma." "I must visit her home soon," Marion thought, "She will be of help in making slow academic achievers feel respectable."

As they planned the day's work, they decided that those who wished could write letters, but that first they should all study how to write letters in their language books. They decided that they would study in committees and that each of the five committees would select the best letters written by its members and make up a committee letter that all members of the committee could send. That way those who were too busy would not need to write letters, but they would still have a letter to send and they would learn by discussing and helping in the committee.

After the recreation period, the children worked for 45 minutes at various jobs. Those who had not finished their pupil name cards worked at that. Miss Johnson found a chance to tell John Littlejohn he need not make his 37 name cards. She found that four others had not completed that job: Harry, Edward, Mildred, and Charles. She helped them finish. She was surprised that Frank had his, but saw without saying anything that on some of his cards (the neat ones), his name was in another hand that she guessed to be his sister's. Some of the children's name cards were very poorly written, but she made no point of that at the moment. She had previously written 37 cards for John Littlejohn.

The children passed the cards around until each child had 36 different cards. Miss Johnson got the thirty-seventh set. The children immediately began looking through the cards and learned to read the names. Some were not legible!

"I can't read some of mine."

"Is this a 'F' or a 'T'?"

"I can't tell the first names and last names."

There were many objections. Here was a good lesson in group responsibility!

"What should we do?" Miss Johnson asked.

The children who felt sure of the legibility of their own cards were very critical and were ready to visit heavy penalties on those who had not done so well. Typical remarks were:

"Make them do them over."

"Make them stay after school and write them."

"Make them write a hundred cards."

"Don't give them a set of our cards."

Marion did not summarize these remarks on the board. She knew that without that their effect would be to show that the group wanted a high standard of work when they were working together and providing one another with material. She knew, too, that many of their suggestions about penalizing the poor writers were childish interpretations of what a teacher should require and that some were the result of their own experiences in school so far.

"Perhaps I did not tell you it should be done very neatly, and perhaps some of you have not done much writing during vacation. Perhaps we can correct or rewrite the cards we have and then we can ask that next time we all write our very best. Some children can write very well, and some can't. It's just like swimming, or roller skating, or making candy, or sewing, or playing ball, or anything else."

So a writing rule was adopted, "Always write the best you can," and it was a majority decision. Perhaps in time it would become a unanimous one. That would have to be another of Marion's objectives, but she didn't think she could achieve it by requiring it. She would have to watch for her chances to develop it in the same way that she had started.

Friday afternoon Marion reviewed with the children the things they had been doing during the week. She wrote on the board the title, "Things We Are Studying and Doing," and underneath she wrote: "(1) Committee work; (2) Names we find in our geography and reading books; (3) Our names; (4) Making our folders; (5) Learning to count; (6) Using alphabet lists; (7) Learning the alphabet; (8) Who the people are in our books; (9) Get and prepare file boxes and folders for each row; (10) Study the rules of order; (11) How to work in groups; (12) How to talk together as friends—conversation; (13) How words are arranged in the dictionary; (14) Getting ready to play a dictionary game; (15) Making a class-list file; (16) Getting to know and work with each other; (17) Finding alphabetical arrangements outside of school; (18) How to approach adults for help; (19) How to thank people who help us; (20) How to take notes; (21) How to be good citizens; (22) How to write plainly; (23) Art; (24) How to write letters; (25) How to be a 'pupil-teacher'; (26) Reasons for taking roll; (27) What we can find in our textbooks; (28) What maps are—what they show; (29) Use of the alphabet in the community; (30) Names and people in various countries."

The children listed the items.

Following the review period, and growing out of it, the children reviewed their material on parliamentary procedure. It was time to elect the first slate of classroom officers—a chairman and a secretary.

"Let us review what we know about our rules of order," Miss Johnson said. "Our notes so far are as follows:

"A chairman

1. Is captain of the group
2. Is elected by the group
3. Does not talk too much
4. Decides who may speak first
5. Sees that everyone is treated fairly
6. Calls the meeting to order

"A secretary

1. Writes down what is decided by the group
2. Reads the report of what the group does
3. Puts down the names of those who 'make motions'
4. Puts down the names of those who are 'nominated'
5. Puts down the number of votes and who is elected
6. Writes down the names of those on committees

"A treasurer

1. Keeps the money
2. Keeps a record of the money
3. We have no money yet
4. We need no treasurer yet

"Committees

1. Sometimes the chairman appoints committees
2. Sometimes the group elects committees
3. Sometimes the first one named is the committee chairman (this saves time)
4. Sometimes the committee chairman is elected by the committee members
5. Sometimes the committee needs a secretary
6. The committee selects its own secretary

"Order of business

1. Chairman opens meeting
2. Secretary reads minutes
3. The group may correct the minutes
4. The group accepts the minutes
5. The chairman asks if there is any old business
6. He asks for committee reports
7. He asks for any new business
8. He tells them what they should decide that day
9. He asks them to decide on time of the next meeting
10. When everything is finished, he asks for a motion to adjourn

"General rules

1. Each person votes only once
2. You may vote by saying 'Aye' or 'Nay'
3. You may vote by a 'show of hands'
4. You may vote by ballot
5. On personal matters, it is best to vote by ballot

"Making motions

To ask to speak, you stand and say, 'Mr. (or Madam) Chairman.' The chairman says your name if you are to speak. You then make your motion. You say, 'I move that. . . .'

chairman serves just long enough to select a permanent chairman. Today, if you do not object, I will serve as temporary chairman."

There were no objections.

"Are there any nominations for chairman?"

"I nominate Judy Norman," Mary Friswold said.

Miss Johnson wrote Judy's name on the board as she asked for further nominations.

"I nominate Oliver Harper," said Albert Ericson.

Before anything more could be said, Milton loudly moved the nominations be stopped. The motion was hastily seconded and passed.

As Miss Johnson passed the ballots, she explained that the secretary would do that next time, or else a committee appointed by the chairman. The result was close, but Judy was elected by what appeared to be an almost solid boy *versus* girl vote. Counting the votes provided a demonstration lesson in arithmetic—marking off fives.

The contest for secretary was between Milton and Gail and Gail won, also by a small margin. The boys grumbled a bit at the result, but Miss Johnson was not bothered by it.

"Fourth-grade children," she said, "almost always start out with most of the boys voting for boys and almost all the girls voting for girls. There's nothing wrong with that, but after a while they vote for those they think will make good officers, or for those they think need practice so they can learn to be good officers too." She said this without sarcasm, without a superiority of manner, and without joking. It was advanced as a statement of fact.

It was time for recess. "After recess," Miss Johnson said, "we will plan the work we want to do next week. Judy is your chairman and will preside. I will write what I want to do next week on the board and you can decide what you want to do. Then we will fit it together."

On the blackboard, Miss Johnson wrote:

Next week I want to

1. Find out how much arithmetic you remember from last year
2. Give each one a chance to read for me from one of the books
3. Get to know more about each one of you through conversation² What do you like to do? What do you want to be when you are grown up? What are your hobbies? What do you like to read? Who are your best friends? What did you do last summer that was most fun?

Next week the pupils want to

- 1.
- 2.

Miss Johnson's list proved so interesting that it was some time before the children got around to discussing their own plans. When the class came

² The first three chapters in the fourth grade language books were on conversation.

in from recess, Miss Johnson had taken a seat at the rear of the room and waited. Judy looked around questioningly.

"Go ahead," two or three whispered to her.

She stood and went to the front of the room.

"Come to order," she said. "What shall we plan to do next week?"

"We can have an arithmetic test."

"We would have to study first."

"We could all take turns reading."

"One could read and then another."

"I want to be a truck driver and go to the coast."

"I want to be a camp counselor."

"I want to be an aviator—jets—zooooooooom!"

"They don't sound like that. Zee-ee-ee-p! That's what they sound like."

"Naw, they go Fee-ee-cerze. They whistle after they are gone past."

"Yeah—you gotta look ahead of where you hear them. I can always see them, but my dad, he never sees them because they're gone first. Every time it's like that!"

"There won't be many more aviators. Rockets will shoot them all down, and go faster."

The room was seething with snorts and whistles and Judy was a bit nonplussed at her responsibility and the vigorous freedom of expression. She had started by nodding to the pupils who raised their hands instead of having them request recognition. Soon, many didn't wait for her nod. There was much interest and spontaneous expression, however, and Miss Johnson decided not to interfere until it seemed absolutely necessary.

After a time, Albert raised his hand and turned in his seat to face Miss Johnson. She smiled at him and pointed to Judy. He turned and, after a moment, stood up.

There was no immediate silence, but when he slowly and loudly said, "Madam Chairman," there was a focus in his direction and the room became somewhat more calm. "You should make each one say 'Madam Chairman,' and they should not talk until you say their name."

Judy looked at Miss Johnson. Marion looked pleased and interested, but she resisted the impulse to nod and thus solve the problem for the class.

"Well," Judy said, as she looked at Albert with some irritation across the great fourth-grade barrier of the sexes. Words failed her for the moment.

Mary saved the day. "Madam Chairman."

"Mary."

"I think the teacher has to tell us what books to read and the arithmetic problems to do, and correct them and show us how because we wouldn't know." (Miss Johnson made a note of this remark.)

That set the children off again, but this time they did generally address the chair and await recognition.

"The teacher has to give permission."

"Miss O'Leary made us sit in the back of the room when we didn't get our work done."

"Yeah! She made us stay after school, too, when we didn't, or when we sassed her."

"She never let friends sit near each other 'cause they whispered."

"When the kids were bad, she made them do extra work."

"Oh! She didn't either."

During the discussion, Marion had moved up to Gail's desk and had talked quietly to her, coaching her a bit, and then she moved to the back again as Gail got the floor.

"I move," she said, "that we talk about what we will do on Monday at nine o'clock and at ten o'clock—and like that—and after recess and after dinner, so I can write it down."

"I second the motion," Mary said.

"What do I do now?" Judy asked Miss Johnson.

"If I were you, I'd ask those who think that Gail's plan is a good one to raise their hands. Gail is secretary and can count the hands. Then those who are opposed to the plan should raise their hands and be counted." With a bit more coaching the voting was carried through successfully.

There were no unfavorable votes though four or five didn't vote, among them Ray, Robert, Charles, and Norma.

"We have to take the roll first, and see who's here and who's late," Russell said.

"We have to do that every day," Janie said.

"I move we do that every day."

"I second the motion," Albert said.

"Those who want it, raise your hands," Judy said. It was unanimous.

Miss Johnson coached Gail again so quietly that the others did not hear. "I'll help you afterwards because it is all so new. Do the best you can. . . ." Gail smiled in appreciation.

"I move that we have arithmetic next." It was Milton's motion seconded by Oliver and passed unanimously.

"Madam Chairman" Thus Miss Johnson rose and addressed the chair. Judy did not formally recognize her at first, but looked at her in silence, expecting her to speak on without official recognition. Then she suddenly remembered. "Miss Johnson," she said with dignity.

"I move that we spend the time from afternoon recess until closing each day as long as is necessary taking turns having each one tell the class what he or she did last summer that was fun, or what he or she wants to do next summer. Perhaps we can talk over—discuss—each one's report in

class and make notes on their name cards about their interests—what they say they like to do." This was seconded and passed.

Gail said, "What shall we do after recess in the morning and before recess in the afternoon?"

Miss Johnson said, "Madam Chairman, I suggest that we get some ideas by looking at our list of things we are studying and doing." Marion paid close attention to the discussion that followed, for in it she found leads to interests that could be built upon to give direction to the development of the possible units that were taking shape in her mind. They decided that they should plan for an alphabet game, work on their Pleasant Valley maps, study how to work in groups, and study how to carry on the conversations about what they liked to do. It was recalled that the committee's letters to parents about attendance were not completed yet. They thought they should study more about writing letters. Some suggested further reading about the people whose names they found in the books. There would not be time to do all these things, so they decided that various pupils and committees could do different jobs. The day was over before all the plans were made. Miss Johnson and Gail agreed to try to finish the program and present it Monday after roll. A motion was made and passed to adjourn. Gail seemed restless about staying after school, so Miss Johnson said it would only take a minute and some of the other girls could stay and wait for her if they wished. While they waited, Miss Johnson discussed the plan with them, meanwhile writing rapidly on the board.

Monday's Program

9:00- 9:30	Take roll	
	Led by Judy	} Discuss outside assignments } Discuss program for rest of day
9:30-10:00	Arithmetic	
10:00-10:30	Reading	
10:30-10:45	Recess	
10:45-11:30	Study about conversations	
11:30-12:00	(1) Plan for alphabet game	} individual } and committee } work
	(2) Select proper size boxes for folders	
	(3) Finish other jobs that may come up	
1:00- 1:30	Study maps—geography books ³ and reading table	
1:30- 2:30	Discuss maps and start work on Pleasant Valley map	
2:30- 2:45	Recess	
2:45- 3:30	Pupil reports—vacation interests, led by Judy	
3:30- 3:45	Plan for Tuesday, led by Judy	

Gail approved it as fast as Miss Johnson wrote it and was soon able to run off gaily with her friends.

* There were an introduction to maps, an aerial photograph, and a map of a small town in the first part of the geography book.

PULLING THE WEEK "TOGETHER"

At the week's end, Marion's note pad contained many remarks, a number of which had been checked to show that they had been partly cared for, and many of which remained unchecked. "Check on John Littlejohn. Check on 'Stinky' Remember the names of new pupils. Albert Ericson—mathematics. Capitalize on interest in names and nicknames. Interest in passing out books fairly. Make seating chart Need for individual folders. Get to know Mr. Adams—janitor. More about each child Need for skill in committee work. Interest in rules of order. Children must learn to arrive at group opinions—consensus Need for additional testing. Prepare for alphabet game Arithmetic committee—third-grade A's Find materials at various levels of interest in reading ability Prepare children for larger part in classroom management. (a) skill and dispatch in getting seated and started; (b) pupil-teacher planning; (c) pupils to serve as chairmen; (d) increase interest in carrying out group assignments for home work; (e) means of deciding who shall recite first; (f) pupil participation in checking attendance and tardiness; (g) pupil care of room housekeeping."

Marion had a good start on her committee work. She had five committees that had been set up on a random basis by counting off. Then she had set up her special arithmetic committee composed of all those children who had an "A" in third grade arithmetic. She would have preferred to select the committee on the basis of more objective evidence. In any case, her arithmetic committee was composed of Jamie Flick, Milton Libermann, Oliver Harper, Gail Hopkins, Albert Ericson, Geraldine Reuther, and Mary Friswold. She intended to add other children to the committee who showed high ability or interest in numbers. (The second week she added Ray Sheldon and Russell Dickmson and the third week she added Marjorie Taylor. After the October standardized tests, she also added Julie French and Janet Kremer.)

Early Committees

(1)	(2)	(3)
Larry	Janie	Andrew
William	Geraldine (secretary)	Stanley (chairman)
Oliver (secretary)	Edward	Alice
Gail	Frank	Norman
Mary (chairman)	Judy (chairman)	Harry
Jean	Julie	Mona
Robert		Esther
(4)	(5)	(Arithmetic Committee)
Mildred	Charles	Milton
Albert (chairman)	Roger (chairman)	Oliver
Sharon	Janet (chairman)	Gail
Marjorie	Russell	Albert
Ray	Milton	Geraldine
Carol	Helen	Mary
	John	

THE ROOMING HOUSE A VALUABLE
BUT BIASED RESOURCE

Miss Johnson, Miss Huderle, who taught the eighth grade, and Miss Sandusky, who taught the kindergarten, roomed at the Gilbert home. Mrs. Gilbert, a middle-aged widow, was a good sport and teachers said it was fun to stay at her place. She allowed them kitchen privileges and they all planned to eat cooperatively after the first week.

Friday night after dinner, Marion had a get-acquainted chat with her new landlady. She learned that Mr. Gilbert had worked in the bank in Pleasant Valley until his death five years before. He had left her the home and sufficient money on which to live, but she welcomed the opportunity to supplement her income from her home. She was thrilled to find that Marion's father was a bank cashier also.

"I hear you've got that Littlejohn kid in your room this year," Mrs. Gilbert asked. "He's a little devil, they say."

"He's been good so far," Marion said defensively.

"Yes, he's good, all right and then he isn't good at all," Mrs. Gilbert answered professionally. "These poor kids from broken homes have a tough time. His mother should have known better than to marry his father. She came from a nice home. She had every opportunity. Her mother has told me many times how she warned her about that good-for-nothing Littlejohn. But she wouldn't listen. She fell in love head-over-heels. After he got her and got married to her, then she wasn't good enough for him. What that man didn't do."

While they were talking, Miss Huderle joined them. She said, "Mrs. Hammond seems awfully nice but somehow beaten up. I think she just feels ashamed of herself. She married Mr. Hammond almost as soon after the divorce as she could, and he's really a nobody, although he's a nice enough man, I guess. But he's really just a laborer over at the bottling works. He doesn't really amount to anything. I don't know where he came from, but he's worked around town for a long time. He's a good deal older than she is, and he's a good enough provider, but he really hasn't anything."

Marion began to see that John Littlejohn's problem was a matter of community concern. Her problem in dealing with him was a far greater one than merely adjusting him to a classroom situation. She had to teach him to live with confidence and security in a world where his chances of being hurt were very great. How much more fortunate he would have been had his mother not been expected to be "somebody" among the young people in the community.

Two other children in Marion's room were from broken homes, but apparently they were not the subject of community discussion. Janie Flick's mother had been divorced two years ago and was now living with her

mother. During her marriage, she had lived in the city where Mr. Flick was a prominent junior executive in a large manufacturing establishment. Mrs. Flick received adequate alimony and expense money for Janie. Mrs. Flick was a quiet, competent, good-looking woman who was devoting her life to her daughter and to a few of the women's activities in Pleasant Valley. Janie was a very bright little girl, well dressed, and well trained, and seemed secure, confident, and well adjusted. As nearly as Marion was ever able to find out, there was no community disapproval of Mrs. Flick.

Larry Forsch's parents had also been divorced. Larry lived with his father and his stepmother. Marion found it more difficult to find out much about that divorce. The Forsches were not people who were well known among those with whom Marion associated. It was said that his real mother would not take care of the children, that she drank and caroused, but Mr. Forsch's reputation was not much better. The present Mrs. Forsch had been a waitress before her marriage and then had worked in a war plant. She was the mother of two young children who had not yet started school. Larry seemed to be a normal boy—his I.Q. was measured at 99 in the first grade. He was strong and extroverted, and, as far as Marion could see, emotionally well-adjusted.

Marion saw that it was difficult to find simple answers to the causes of the children's difficulties. One of her sociology professors had pointed out the danger in relating delinquency and emotional disturbance to the presence of broken homes. The controlling factors involved, he had said, might not be in the broken home at all, but in a lot of things that may or may not go with it.

PLANNING THE SECOND WEEK

Over the week end, Marion had time to plan her second week's work. The work so far had given her many leads. Her problem now was to get things going in such a way as to keep the majority in the room busy at useful learning experiences while she found time to diagnose individual differences and find learning experiences for those who were not able to work with the rest of the children, either because they were too far behind or too far ahead.

In the typical old-fashioned fourth-grade reading lesson, for example, the children open their books and, one after another, read to the teacher. Some children go so fast that the teacher criticizes them for their speed. Others read at a reasonable speed and with a few mistakes, but many will have difficulty with the typical basic fourth-grade reader, and some will read seldom and very haltingly. While one child is reading, in such classes, the other children are learning little or nothing. Those who can read well are wasting time watching the words someone else reads. Those who are unable

to read lose interest and, if they were able, watch only close enough to keep the place while they hope they will not be called on. The fact is that in some classes they are seldom called on, for their reading is poor and irritating both to the class and to the teacher. Marion did not believe in this kind of wasteful teaching, and she had no intention of doing it. She hoped to plan so they would read for a purpose and would strive to understand because they needed what they were reading either for pleasure or information or both. She wanted all of them to learn to enjoy reading rather than to detest it.

She intended to carry out the same plan in other subjects. She did not wish all children to work the same arithmetic problems because she knew if she did, she would be wasting the time of most of them. All this added up to the need for developing self-sustaining activities where children's interests, motives, and needs would carry them along, while she assisted first one and then the other. Three days, she knew, were not sufficient to get her class well organized along this line, particularly since it had been taught in a rather traditional, albeit kindly and friendly way the year before.

She saw, however, various possibilities. The children had shown a spontaneous interest in names that had led to a real interest and concern about the alphabet. This in turn had involved them in the study of the dictionary and the telephone book, and now gave promise of leading them out into the community, into a study of the map of the community and from there into various aspects of community life. The interest in their own names and in each other's names was closely related to their social interests. They were beginning to make notes on their cards about people whose names they found in their readers and their geographies. Some of them were learning a few things about how to make brief, pointed notes. They were learning to file alphabetically. They had experience in preparing cards in a more legible form for other members of the group to use, so that each one's card record of the whole class was in a sense a group product since each child had prepared his own card. The file boxes they were preparing for each row also were to be arranged alphabetically and each child's name would be on his individual folder. The maintenance of these folders, Marion hoped, would last through the year. She had great hopes for developing their interest in what went into these folders. From them she could develop self-evaluation. Through their interest in names, she knew that she could keep them busy with silent and work-type reading, with writing, and with various other projects that would carry them along without constant prodding and domination on her part. She could spend her time in keeping order and hearing recitations or she could develop units that did not require constant attention. She selected the latter course so that she could be free to attend to the individual learning problems of the various children.

The children had also shown interest in the mechanics of running a meeting according to some rule or discipline. They had already collected much information about how to hold meetings, and Marion felt sure they would develop great skill in conducting meetings, in having a secretary who would keep minutes, and in making some sort of group decisions both on a voting and on a consensus basis. At first, however, she was concerned with setting up conditions under which children would assume more and more responsibility in classroom management, including the simple responsibilities that teachers so frequently burden themselves with, never realizing that while such routine is time-consuming drudgery to them, it is highly interesting and educational to children. Her secondary reason was to free herself from the routine and the policing duties that occupy most of the attention of some teachers, so that she could perform more of the highly professional duties that she was trained to do. She realized soon that there would be some members of the class who would find it extremely hard to learn these new procedures. There could be no "perfectly" organized class, but there could be genuine adult tasks, however small, for everyone.

She had hoped to bring the classroom into close contact with the community. A start was being made here in going to the store for boxes, going to the bank and other places for maps, and in seeking information at home about the use of the alphabet in the outside world and about the rules of order for running meetings. These were preliminary activities, however, and merely icebreakers as far as Marion's ultimate plans were concerned.

In preparing her work for Monday, Marion secured some large sheets of white wrapping paper upon which the children could draw maps in groups. She secured six 18-inch rules and some dividers from the supply department in the principal's office. There was a science kit in the store-room and from this she secured a bar magnet and provided herself with a needle and a cord and some glasses for water. One of the science pamphlets told about how to make a classroom compass and she intended to introduce this experiment at the same time the children located north on their maps, to test their interest and backgrounds in science. They would also examine some of the maps in the map case at that time to see where north was. Some of the brighter ones could try to study about north on the globe, too. She thought they could have some fun with puzzles such as, "Where on the earth could two men both walking straight north bump into one another face to face?" "Where on the earth can you suddenly change from going north and start going south without turning around?"

She dropped into a filling station and secured free of charge several maps of the state and of the surrounding states and, passing by the lumber yard, she had an inspiration and walked in and asked the manager for some floor plans that might no longer be usable. The lumber yard manager was very

interested and asked Marion many questions about why she wanted this material. She was able to enlist his interest and a promise to come to school sometime and explain how new buildings are built. In the course of their conversation, he mentioned that they had some blueprints suitable for use in constructing lawn furniture, kitchen cabinets, and various other items around the home. He provided her with copies of much of this material. He also had some plans for building outside grills of brick, mortar, and stone, and he had some samples of painted bits of wood to demonstrate different colored paints, and had various samples of woods of all kinds. Unable to carry all the things that he offered her, Marion asked him to save them for her, but he promised instead to deliver them at school himself on Monday morning. She had an idea that much of his material would be of help in motivating an interest in arithmetic.

Marion knew that the University maintained an air field about six miles from Pleasant Valley, so she telephoned there to see if they had any aerial photographs or prints of aerial photographs that might show the topography of the surrounding country from the air. The people at the University said that they could let her have some that had been used for training purposes, and she made arrangements to have them left for her at Peterson's Restaurant on Main Street. She had a last inspiration along the line of maps and charts. She examined some of the educational magazines in the teachers' library and discovered plans for school buildings and classroom furniture layouts, drawn to scale so that they could be used as examples of classroom maps or school maps.

MORE STUDY OF INDIVIDUAL PUPILS

It was Marion's intention to find time to work with some of the children at both extremes of ability in an effort to discover individual interests or abilities of the children that might contribute to the total classroom situation and serve as motivational spring boards from which learning for all might take place. At one extreme she was interested in children like Albert, Julie, Judy, Milton, and Janie.

An examination of the third-grade reading scores showed that Janie, Jean, Milton, Oliver, Carol, Andrew, Gail, Albert, and Mary were reading from one and one-half to four and one-half grades above their grade level. It was obvious that if these children were really reading so much above their own grade level, it would be a waste of time under ordinary circumstances to ask them to do much formal reading with the other children since it could do little but bore them and waste their time.

At the other extreme there were the Knott twins, Esther and Frank, both with first-grade I.Q.'s of 99, but Esther was achieving at about average, while Frank was decidedly below average. There was Charles Murphy

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with a first grade I Q of 89, whose reading in the third grade was below the first-grade level in comprehension. There was William Toole with an I.Q. of 95 in the first grade and Harry Clarkson with an I Q of 94 in the first grade, both of whom were reading in the third grade at or below the first-grade level. Sharon Pogue with an I.Q. of 120 in the first grade was reading below third-grade level. There were those who seldom or never participated, such as Ray and Robert, and there was Edward with an I Q. of 72.

She wanted a chance during the second week to hear these children read, to listen to them talk, to see them try some simple arithmetic in order to place their abilities. Even more important, because it was more difficult, she wanted to discover their interests and motives. She wanted to find out things they were able to do that would benefit them and provide practice in learning things they should learn. She knew that some of those of low ability in her classroom would probably be very ordinary workers in the adult world, and she knew that some of those with high ability in her classroom might be the future professional and business leaders of their community and state. She knew that she could not reasonably expect all of them to do, learn, and appreciate the same things. She knew, too, that double promotions or accelerated programs for the brighter children and failure and retention for the slower children would not reduce the range of abilities in the various classrooms. She knew that the older these children got, the more different they would be from one another. Hence, time, even double-time in a grade, would not serve to bring them up to some imaginary standards. She knew that the only alternative left to her was to find out what their abilities were, what their interests were, what their needs were, and what the best judgment was concerning what they should be able to learn and to go on from there. She knew, finally, that she could not tell for sure which were the dullards and which the potential leaders. She had read of too many cases where serious errors had been made in such cases, even when based on careful testing.

MISS JOHNSON CONSIDERS HER OBJECTIVES

Thus Miss Johnson began the development of her fourth-grade units. Her objectives she drew from the curriculum that had been given her to use, from her own conviction that education should be based on the broad basic objective of human welfare, and from her insight into the purposes of education as she had worked them out at college. The local curriculum outline stated the general objectives under four categories—physical, social, intellectual, and ethical—under one or more of which there were specific references to individual health, and health and safety for all; skills and

techniques in the worthy use of leisure; freedoms and responsibilities; worthy group membership; wholesome human relations; mastery of the common and necessary knowledge and skill for effective living; critical, discriminating thinking and problem-solving; curiosity and interest and their satisfaction; the development of ideals; and the appreciation of beauty, truth, justice, freedom, and a respect for the opinions of all.

These were valid objectives though she would have stated them differently and expanded them somewhat. She would have made reference to cooperation, appreciation of each other, high standards of workmanship set by each one for himself and by the group for the group, thoroughness the same way, application, curiosity, tolerance, resourcefulness, open-mindedness, and scientific attitude.

In mentioning skill objectives, she wanted something definite: skill in using sources of information—books, pictures, maps, magazines, newspapers, radio, excursions, and the like. The variety of communication and aesthetic skills needed more extensive enumeration—dramatization, oral and written reports, letter writing, pageantry, costuming, use of clay, paint, wood, tools, paper—as media of expression, in addition to handwriting, arithmetic, and an ever-to-be-increased skill in all kinds of reading.

OBJECTIVES INTERTWINED WITH THE PSYCHOLOGY OF LEARNING

She believed that finding and developing goals is essential to real learning, that fragmentized learning is ineffective, and that processes and skills must be used in the effort to attain goals if they are to be effectively learned; that learning must involve invention and discovery by the learner, rather than being limited to memorizing things that others have already learned or discovered; and that what is learned must be organized and interrelated, generalized about, and tested for its worth. She planned her units to take advantage of these well-established principles of learning, instead of depending upon mechanical, verbal, memoriter mastery of assignments.

ADMINISTRATIVE PRESCRIPTIONS AFFECT THE CURRICULUM

In the Pleasant Valley outline, the fourth grade was the first year in which the children moved beyond the study of their more immediate home, church, and school neighborhood into the broader world of the city, county, state, and (in general terms) the whole world.

The time schedule (suggested) for the fourth grade gave a daily 120 minutes to the social studies and science, 100 minutes to the language arts, 40 minutes to health, safety, and physical education, 40 minutes to mathematics, and 45 minutes to crafts, art and music, and other aesthetic

experience. Marion knew, of course, that it was psychologically impossible to break up a day in this rigid fashion, but she felt that she could carry out its spirit and felt free to try, since the outline was better than many.

THREE POSSIBLE LEARNING UNITS APPEARED TO BE GROWING

She thought that the units themselves might ultimately shape themselves into three studies:

- (1) A study of group management
- (2) A study of the community
- (3) A study of world background

SOCIAL COMPETENCE IN WORKING AS A GROUP

Miss Johnson wanted her classroom to have an atmosphere of freedom under mutually agreed upon rules and have the pupils participate in setting goals, in planning to reach them, and in evaluating the effectiveness of efforts to carry out plans and reach goals. She wanted all children to feel at ease, to succeed according to their abilities, and to be free of the fear of failure to achieve as well as others. She wanted to develop group loyalty and pride, and the social skills and attitudes essential to democratic living. She wanted these things so that the children could work hard and with devotion to learning.

CHILDREN'S INTERESTS EASILY LEAD TO THE COMMUNITY AND ITS RESOURCES

For the social studies subject matter in the first units that she hoped to develop, she planned to draw on the civic, social, scientific, economic, and industrial resources of the community. She planned to lead out into the community first through a search for help in "running meetings," selecting officers, working in committees, and the like. This was an interest that had seemed real to the children as the first week's work had progressed. She hoped to bring parents into her room to tell the children how to be a chairman, a secretary, a committee member, and so forth. Before the parents came, the children would work hard to decide what to ask, how to ask it, how to take notes, and other things. Then there might be a visit to a school board meeting, a city council meeting, a labor union meeting, a bank directors' meeting, a parent-teachers' meeting, a co-op meeting, or any other meetings that they might discover. Many letters would be written inviting, thanking, and asking for information; and many oral interviews would be made.

The interest in names might also lead out into the community. The pupils might find a Scandinavian parent, for example, who would visit them some day and tell them what the "son" and "datter" meant at the end of their names. Or it might be a Scot (if one could be found, and the search would be fun) who could tell what "Mac" meant. These people from other lands could at the same time tell the children many other interesting things about the old country, the trip to America, and so forth. This type of activity could easily lead to the construction of a map of the world with ribbons springing from Pleasant Valley (and its fourth grade) to nations far away, and to invitations to immigrants and world tourists in the community to come and tell about distant places.

Names also could lead into a study of the history of the locality and the state—who the first settlers were, their names and nationalities, and the waves of immigration. Much of this information could be obtained from the Mayor's Council on Human Relations in the nearby city, from the county and state historical societies, and the local newspaper office.

The children's interest in fairness in the classroom in the distribution of books could lead, too, to a study of fairness in the community. Fair laws, fair traffic courtesy, fair treatment for all groups, and fair law enforcement.

The children's immediate interest in the alphabetical street arrangement and in the preparation of a map of the town would easily lead to the location on it of the various community industries and businesses. The pattern of community development would emerge from this. A model community made to scale might be constructed if it caught the interest of the children, and the industries and businesses could be studied. The bottling works offered a fine chance to talk about state health rules, pure food laws, sterilizing, preservatives, and mechanical shortcuts. Here would be science, health, and social science combined! There were other businesses to study, too. The lumber yard, the power plant, creamery, monument works, telephone office, butcher shop, barber shop, bakery, garage, cooperative market and warehouse, and wholesale oil company.

Health and safety would easily become a part of such work. The factor of traffic safety could be introduced while a study of the map and the location of businesses was being undertaken. An actual traffic count by students might work here and what an opportunity to motivate arithmetic if that should catch their interest! The doctors and dentists would certainly be interviewed, and the services of the local hospital studied. The children could formulate a set of rules concerning what fourth-graders should do in case of accidents of various kinds. (1) Call for adult help—police, doctor, parents, teacher, depending upon when and where the accident occurred. (2) Simple first aid. (3) Electric wires to be feared and other hazards to be avoided. This certainly would get cooperation from

the Civil Defense Authorities as valuable whenever the threat of war was on the horizon.

Science information would come in on all points. Health could provide many openings—the clinical thermometer, the stethoscope, and vaccination and other immunizations. The Junior Red Cross would be a valuable resource.

The creamery should provide a multitude of interesting science experiences. Milk, butterfat content, cream, pasteurization, souring, bacteria, and cheese cultures might be a few. The centrifugal butterfat tester would likely be of interest to children. In all this, there were countless mathematical possibilities. Marion sighed as she dreamed up the outlines of her resource units. "How much I'll learn myself," she thought.

The study of the creamery would lead out to the farms around Pleasant Valley, to the dairy herds, the forage crops, the silos, the tractors, the farm homes, all the farm animals, and to conservation, to man's dependence on his environment and his need to take care of it—to interdependence of man and environment and to interdependence of all people such as the farmers in the country and the workers in the city.

Marion knew that her children would develop and learn literally thousands of valuable attitudes, abilities, problem-solving techniques, and facts and skills, but that planning was necessary in order that mastery of the facts and skills be made a conscious motive and goal. Perhaps half of each day could be spent profitably in concentrated work devoted to skill subjects, the need for which should spring from group activities. She knew, too, that *some important skills* and the chance to use and learn them *might not grow out of the units as they developed and that these should be taught and maintained without reference to the unit.*

THE INDIVIDUAL DIFFERENCES IN THE CLASS SET THE CURRICULUM PATTERNS

She needed, as soon as possible, to learn more about the individual interests and hobbies of her pupils and their ability levels in various areas. She knew the third-grade reading scores and who had received *A* in mathematics in the third grade. She knew about Albert's high mathematical ability, the verbal ability and extroversion of Mary, Andrew, Janie, Gail, Jean, and Milton and, to a lesser extent, Oliver, and Judy, and Geraldine. These were the talkers, the ones who raised their hands. Julie, too, had high verbal ability and a high first-grade I.Q., but she was very quiet.

She had to learn more about the occupations of the parents and about their homes and socio-economic status.

She had to learn soon about who could draw, paint, sing, play musical

instruments, run, jump, throw, dance, sew and weave, make things with tools, make rhymes and odd sounds, who had science hobbies, who had lived in or traveled to distant places, knew foreign languages, rode horseback, delivered papers, or had coin, or stamp, or butterfly collections—and all the other things that the cumulative record should show, but didn't.

These were things she had to know before she could really assist the children in planning units in terms of their needs and abilities. She had her plans made to start learning. Each child now had a file folder in which he would put things of interest to himself. These were the files that were to be kept in the boxes at the ends of the rows. They would be open to inspection by other children and by Miss Johnson at any time their use was necessary.

She had some notes of her own, too, in a set of confidential file folders that she was building up. These were in addition to the permanent individual folders that would pass on from grade to grade. Marion wanted a file where she could put notes about each child as she made important observations. For example, Helen Thompson's mother was mentally ill, had delusions of persecution, and it was sometimes feared she might harm other members of her family. Under such conditions it would take unusual human understanding to help Helen meet the problems facing her as an immature and inexperienced child. There was a note on Roger Schorn, who sometimes volunteered, but who giggled nervously as he talked and seemed under tension when he became the center of attention in his learning group. As these notes accumulated in the file, a fund of information of the type she needed would gradually be built up.

CURRICULUM OUTLINES AS RESOURCES

Marion found the official curriculum outlines very helpful. The first booklet was a general guide. The chapter on the use of community resources gave her a number of ideas that she was easily able to work into the activities of her class. She liked the suggestion that the list of the winners in the various women's divisions at the County Fair would give her many ideas for resource people in the community on such items as embroidery, quilting, color combinations, furnishing a home, and making jams, jellies, and sauces.

There was a chapter on "Helpful Information for the Elementary Teacher." In it she found suggestions for evaluating pupil progress under each of the following headings: careful observation, records by former teachers, informal teacher tests, standards set up on a pupil-teacher cooperative basis, group and individual progress charts, standardized tests, and promotion policies (the futility of expecting good results from non-promo-

tion). She liked the last chapter on "Significant Curriculum Trends." It made her feel professional, experimental, and alert because it agreed so much with what she believed.

CURRICULUM RESOURCES UPON WHICH MISS JOHNSON PLANNED TO DRAW

As background for herself in approaching the study of the community, she reviewed again material she had collected for her own use, such as *A Guide to Elementary Education* from the Baltimore Public Schools; *Foundation Values of American Life* from Cincinnati; *An Overview of the Elementary School Curriculum* revised, from the Minneapolis Public Schools, and a *Unit of Work on Home, School and Neighborhood Life* from the Pasadena Schools. There were countless suggestions in them suitable for all levels of ability.

She had a Denver bulletin, *Activities, Expected Achievement, and Tools in English*. This contained many ideas that she could adapt to her activity program. Some suggestions were of special value in dealing with the slow readers and the children who were immature for their grade. Of value with more advanced pupils was the *New Intermediate Manual* from Cincinnati. Valuable suggestions on a plane suitable for all levels of ability were to be found in a whole series from Milwaukee on science, one of which was entitled *Science in the Elementary Grades, Insects*. A curriculum bulletin called *Suggestions for Independent Activities at the Primary Level* by Eileen M. Fry, contained some simple phonics activities.

She also had a fine field trip bulletin from the St. Paul, Minnesota, Public Schools. This gave her many ideas of how she might enlist the constructive cooperation of local institutions.

The development of competence in the physical, biological, and social sciences requires an open mind. The bulletins prepared in The Open-Mindedness Study in the Philadelphia Public Schools were one of Marion's resources here. They contain illustrations of how teachers used classroom statements or incidents to motivate valuable lessons, as when children fought over a reference book, when a boy said that all politicians are grafters, or when another said that Chinese children were funny because they write "backwards." Also good, and recent, was *Philadelphia—A City of Many Neighborhoods*.

Many ideas on how to locate science materials in rural areas and small towns, how to discover children's interests, how to use the resources "across the way and down the road," and how science enriches rural living, Marion found in *Science Teaching in Rural and Small Town Schools*, prepared in the United States Office of Education. A fourth-grade unit of real value was one on spring planting, with an actual day-to-day diary of

what the class did, including letter writing for materials and the planning for a classroom visit by the county agent. Excellent, too, was Julian Greenlee's *Teaching Science to Children*.

Stimulating instructional materials of many kinds are necessary to sustain and develop interest and guide activity. Among curriculums in the library room, Marion found a few helpful examples. There was *Social Studies in the Elementary Schools*, a publication of the Philadelphia, Pennsylvania city curriculum office in 1956. She thought the bulletin was particularly good in that it presented a well-rounded conception of "community." She also found the *New Intermediate Manual* of the Cincinnati Public Schools. In it, she found many suggestions of how to study the ways in which people serve their community. She liked the *Handwriting Suggestions* from Philadelphia and *A Guidebook of Living and Learning Experiences* from Chicago. (The latter provided a wealth of suggestions on how to build classroom units, and gave extensive lists of activities from which children could learn.)

In the library room Marion found some fine material for the children's reading table. Later, she hoped the children would explore the library for pertinent materials. For alphabet and dictionary practice, she selected a very simple book, 5 by 8 inches in size, called *Railroad A B C*, and, much larger, the *A B C and Counting Book*. These were on a pre-primer reading level. She selected *My First Dictionary*, a delightful picture dictionary with a second- or third-grade vocabulary. Another find was the colorful *The Golden Encyclopedia*, 12 by 18 inches in size, with 125 pages of pictures. Here there were many brief articles about things her children would wish to know, such as maps, music, aircraft, farming, food, games, history, Indians, insects, fish, magnets, mammals, and man. The article on names fell in with the class interest and, glancing at it, Marion learned for the first time the derivation for two of the most common Spanish surnames.

Her best find on names in the library was *People Are Important* by Eva Knox Evans. She found this a very interesting and highly factual book written in easy fourth-grade language about things fourth-graders love to know. One chapter dealt with names, and the whole book was full of important information on how to establish good human relations.

In her search for materials on parliamentary law, Marion found two books on a junior high-school level, both old. She thought they might interest some of the good readers. She also found some textbooks that had simple illustrations of club meetings.

Marion also located a dictionary of names. She borrowed the *Webster's New International Dictionary, Unabridged*, in which were listed the meaning of many English first names. She had the telephone books that had

been previously brought. In the library she had found a copy of *Robert's Rules of Order* and she had found as well some other books that contained information about how young people should conduct meetings.

Marion wanted scientific materials for her pupils to read. Some should be difficult enough to appeal to boys like Albert Ericson while some should be easy enough to interest the slower ones. She found an interesting adventure story about the tuna fishing industry that seemed informative and exciting. It was called *Star For a Compass* and told about a stowaway on a tuna boat. She also found *Ball In the Sky*. This was a story about balloons, a subject that always interests ten-year-old boys. Because the children were interested in the general topic of satellites, she decided to bring two books to class on that subject even if they might prove too hard. In any case she brought *Space Satellite—The Story of the Man-Made Moon* and *Exploring By Satellite—The Story of Project Vanguard* to her reading table. *Tools for Andy* and *Tim and the Tool Chest* were books with easy lower-grade vocabularies designed to catch and hold the interest of youngsters who like to make things.

She also picked out some additional books for "fun" reading. She selected *Mr. Ferguson of the Fire Department*. This is a rather fanciful story, easy to read, about a very short man who wanted to be a fireman and its easy vocabulary recommends it to children who read on the first- or second-grade level. *The True Book of Pioneers* told how the early settlers traveled, secured their food and clothing, built their homes, and managed to survive. She found another interesting book, *From Pillar to Post*, that told the story of the mail.

The Noisy Book told of a little dog who heard and tried to identify many noises. Through the interest it might arouse, Marion hoped to involve the children in the "sound" world around them, and from there stimulate real interest in both science and music (a partnership that extends through all levels of music education). Other books that she found helpful in this respect were *The Merry Fiddlers*, a story primarily of crickets, though other animals play minor roles; *Song of the Swallows*, a story of Capistrano; *Ruby Throat*, the story of a hummingbird; *Stories that Sing*; and the delightful *Cow Concert*, the story of the little Swiss girl who in her dream taught her cows to ring their cow bells (as the Swiss bell ringers do), to play the Blue Danube and other Strauss waltzes as she stood in the barn and directed them.

To interest the girls in science, and in other things too, she found *A Child's First Cook Book* for girls from age seven to twelve, and *The Junior Party Book* with suggestions for parties on all occasions. For both boys and girls, to help build an interest in graphic art, she found numerous books by Amy Hogeboom from which she selected six. She selected for general

reading *Indians and Cowboys*, *Daniel in the Cub Scout Den*, and *You and the Constitution of the United States*. A delightful story, with many overtones, was Brown's, *The Flying Carpet*. Another was Batchelor's *Sea Lady*.

Films and filmstrips are used too. From her catalogues and notes she had taken in her course in visual education, Marion compiled a list of films and filmstrips that were available for small rental fees from the University and from the State Education Office. This list she planned to show to Miss Altonweather and then to schedule as far in advance as developing plans might justify.

MONDAY'S ROOM

Monday morning Marion had the books on the reading table and on the bookcase shelves. She had 53 library books and brochures in addition to over 90 graded textbooks in various subjects and on various grade levels. She put road maps of three states on the bulletin board, as well as some blueprints of house plans, some of the aerial photographs from the airport, and some classroom plans from an old professional journal. A roll of white wrapping paper was placed conspicuously on her desk, along with large rulers and some dividers. Other blueprints of buildings and lawn furniture and extra copies of the road maps were placed on the work tables along with the daily newspaper.

Judy and the monitors took roll as Miss Johnson worked at her desk. Three or four children had come in early and gone to work. The program for the day was on the board and Gail presented it. Roger was appointed to see that each child's parents received a well-written letter on attendance and state school aids.

At the opening of the arithmetic period at 9:30, Miss Johnson told the children she wanted to find out how much they remembered from the third grade. "Some remember better than others," she said. "There is no need to study things you already know." She wrote the following page numbers on the board: 2, 3, 16, 17, 44, 88, 128, 145, 182. They were the numbers of pages in their arithmetic books that contained inventory tests ranging from the very simplest to rather complex problems in addition, subtraction, multiplication, and division.

"Try to work the hardest ones you can," she said. "See how far you can go all by yourself. I won't mark you on it, so don't worry if you can't go very far. When you have gone as far as you can, put your name on a sheet of paper and put down the answers of the problems on that page. Some of the first pages review what you had in the third grade. I want you to do the problems on pages 2 and 3 and then turn over to pages 16 and 17, and keep on working as far as you can go. I will walk around the room and help you and see how far you can go. Do not worry if you can't do the

hard problems. Many of us forget a lot during the summer. I just want to find out how much you have forgotten and how much you can work."

Albert started in at top speed. He wrote the numbers carefully and neatly but very rapidly and without apparent effort. Marion noticed very quickly that Julie and Milton were competing with one another—Julie in her shy, bashful way glancing over Milton's left shoulder occasionally and Milton frankly turning around every now and then to see how far Julie had gone. They were both proficient in their work. Before the period was over, Marion had quite a few new impressions of the children, though she knew those relating to arithmetic skill would not be too reliable until she had some standardized test results. She was surprised to see Marjorie Taylor working quickly and competently. Although her first-grade I.Q. was 86, and her third-grade reading scores were only slightly above average, she was apparently working with more speed and accuracy than most of the other children. Miss Johnson had taken little note of Marjorie up to this point. She had not volunteered or attracted attention to herself in any way. She was not on the arithmetic committee since she had not received "A" in arithmetic in the third grade. It struck Marion that Marjorie did not look scholarly. She sat in the back and seemed less neat and girlish than the other girls and was not quick to respond to ordinary motivation. "I must study her," Marion thought. "What is there about her that suggests poor academic ability aside from the low first-grade I.Q.? I guess she really is neat enough. It's just that she isn't stylish in a girlish way. She's plain!"

Marion noticed that some of the children were making no progress at all. Edward Stark stared at the pages and fingered his pencil in a desultory fashion. Selma worked methodically and happily, using the fingers of her hands to count now and then. Ray Sheldon, slumped in his seat, made good progress. Larry Forsch, Charles Murphy, Sharon Polk, and Mona Carewe seemed to be working fairly slowly. Robert Schultz fussed with the papers in his desk and didn't get around to doing much work. As Marion walked about the room, she made no critical remarks about anyone's arithmetic ability. She showed the children in one or two instances how to write the problems and space them so that they did not become run together and confused. She smiled and was helpful and unruffled by any show of inability. She asked a few questions and made a few suggestions with pleasure and encouragement in her voice.

After a half hour, she suggested that they place their papers in a safe place until tomorrow, or later in the day if they had time from other work. "I would like you to save them even if you didn't get very far."

During the rest of the week, she divided the children into four working groups to work on basic arithmetic skills. This was much simpler for those

who were poor in arithmetic than for the more advanced. The latter were capable of doing arithmetic on an upper-grade level. Her problem with them would be to help them find constructive, interesting opportunities to learn mathematics in relation to the developing units. She would have to find materials and experiences that would build mathematical insights. They would need to be led, too, into science. The slow groups seemed relieved when they discovered they were not to be rushed or pushed to overtake the more gifted groups. They became more interested in arithmetic as they found how they could apply it with profit in their work.

Marion used the reading period in much the same way. Each child found a page in a book that he would volunteer to read to her, "except that you will not know all the words, because we haven't studied the words in the reading books this year. You can ask the meaning of words you don't know when you read, or wait and look them up in the dictionary." After they found a page they wanted to read, they were free to do other work or read what they wished.

Julie, Stanley, and Geraldine had chosen poems to read. Albert read an editorial from the daily newspaper about the need for flood control along the middle reaches of the Mississippi River; Jane and Mary read perfectly from sixth-grade textbooks. Some of the children had selected fourth-grade material they could not read at all well, but a sense of pride and insecurity prevented them from selecting lower-grade material. Others showed no such hesitancy, among them Selma who had selected a second-grade reader and read from it competently. Miss Johnson complimented Selma on having found something she could do well.

Many were able to read material they had mastered in their search for data about the children in the various books. It took two days before each one had a chance to read for her. She then had a basis for tentative reading groups, and the children planned with her on reading assignments. Where possible, these were made in terms of the needs of other activities. This was to be both a recreation and a work-type reading period, Marion decided, but the two would not be mixed. Things the children read for profit or for entertainment would not be spoiled by injecting into them the mechanics of reading. Lessons devoted to the mechanics of reading would make no attempt to find facts or ideas for other projects such as pleasure and beauty in literary expression or vicarious adventure and experience in fiction or biography.

After recess, the children had a language lesson in preparation for their afternoon oral reports. The first chapters of the language book were of great assistance as the children began to make a list of "good rules when we talk with one another." The development of this list took more than the one week. Some of the children with more time than the others worked

in groups preparing conversations to demonstrate the rules they had developed.

The actual reports and the conversations about them that came after recess in the afternoon were one of the most important parts of the day to Miss Johnson. She sat in the rear of the room where she could take notes more easily. Judy called on Janet, Jean, and Geraldine first, and then followed with Oliver, Russell, and Gail. Janet's interests were not bookish. She talked of her month at the lake, and was interested in the beach and in fishing (she said, though the conversation showed little real experience), swimming, and playing on the dock. The high point of her summer had been the discovery of riding stables where she had taken eight one-hour lessons (\$40 00) and had learned to ride well enough to "pass" on three gaits. Albert knew quite a bit about horses, and so did Richard, Charles, and William, all of whom lived on farms near town.

Marion's notes in this matter were of assistance later in the year when discussion of the rapid changes in ways of living and the contrast between the horse-drawn age and the motor age came up. These children had by then become the room authorities on horses and other farm animals, and what the class didn't know they were expected to find out. Various other notes were also important. Marion was surprised to see how diverse their interests and experiences were. Ray was interested in his uncle's "tool shed." His uncle was a well driller and had a tool shed full of vises and a lathe and a forge with an electric bellows. Larry lived nearby and Ray's uncle "let Larry come in too, but not other kids 'cause they swiped things and fooled around and might get hurt or ruin the tools."

Ray's uncle as well as his tool shed proved to be a most valuable find—the tool shed as a place to have things made, and Ray's uncle as a man who knew a lot about local geology and the changing water level of the region. He was an observant man. The many wells he had driven had given him a wide fund of information of this sort, information he was ready to share with others.

Through the week, Miss Johnson got much better acquainted with the children and they got better acquainted with each other. She made suggestions concerning notes about one another that they could write on their name cards. After the children had a chance to discuss their interests and experiences with the class, Miss Johnson suggested that they consider how she should reassign the seats for the enrollment and recitation periods.

"You will remember," she said, "that the seats you have are those that you selected the first day. Now it is time for me to try to work out a better seating arrangement. As far as it is possible to do so, I would like to have you sit near the people you wish to be near. Of course, I won't be able to work it out exactly that way, but I'll do my best." Slips of paper were

passed out. "Will each of you write three names on each slip, numbering your choices one, two, and three . . . ?"

There was the usual childish shuffling and inefficiency in promptly writing the names, but there wasn't the shouting and questioning that had sometimes broken out during the first few days of school. She continued to use patience and tolerance in overlooking occasional noisy distractions.

A SOCIOGRAM IS PREPARED

Miss Johnson used the customary techniques in arranging the names and drawing the diagrams. She discovered when the work was done that the pattern was rather typical of fourth grades in many schools. The small number of choices between sexes was typical of classrooms where children do not work much in groups. The number of choices ranged among the boys from Oliver with six and Russell, Roger, and Stanley with five, to Edward and John who were chosen only once, and to Charles and William who were chosen by none. Among the girls, Judy received seven choices and Janet and Marjorie each received five, while Carol and Mildred were chosen by none. Janet and Judy were mutual choices, as were Mary—Janie, Marjorie—Norma, and Marjorie—Helen. Mutual choices among the boys were Albert—Oliver, Harry—Edward, and John—Ray.

SUMMARY OF FIRST SOCIOGRAM

Boy's Name	Choices		Girl's Name	Choices	
	Received	Made		Received	Made
Oliver	6	3	Judy	7	3
Roger	5	3	Janet	5	3
Russell	5	2	Marjorie	5	3
Stanley	5	3	Gail	4	3
Larry	4	3	Mona	3	3
Albert	4	3	Norma	3	3
Milton	3	3	Janie	3	3
Ray	3	3	Geraldine	3	3
Andrew	3	3	Jean	3	3
Richard	3	3	Helen	3	3
Warren	2	3	Sharon	3	3
Harry	2	3	Julie	3	1
Robert	2	3	Selma	3	3
Frank	2	3	Esther	3	3
Edward	1	3	Mary	2	3
John	1	3	Alice	2	3
William	0	3	Mildred	0	3
Charles	0	3	Carol	0	3

Choices between sexes—6

Mutual choices—girl and girl—4

Mutual choices—twins, boy and girl—1

Mutual choices—boy and girl—3

Miss Johnson recalled her surprise at Marjorie's arithmetical ability. Now she saw that Marjorie had received five choices. She noticed that none of the five girls who chose Marjorie also chose Judy, but that Marjorie herself chose Judy. This could be contrasted with Janet. Janet and Judy were mutual choices and Mildred and Mary chose both Janet and Judy. This pattern suggested numerous interesting possibilities, among them that some sort of social division existed within the group, and that Marjorie might feel that Judy's group had greater status.

Among the boys, none of the five who chose Stanley chose Oliver, but again Stanley chose Oliver. None of the five who chose Russell chose Oliver, but Oliver chose Russell. These also suggested groupings of which Miss Johnson had not been conscious.

Frank's position on the sociogram was interesting. Miss Johnson had previously noticed his dependence on his twin sister Esther, but found on the sociogram that he and his sister made each other mutual choices and that he had also been made a choice by Carol who was a close friend of his sister. No boy had chosen Frank, but Frank had chosen Sharon, who had in turn chosen his sister Esther. This might indicate nothing more than that Frank's dependence on his sister had extended itself to his sister's friends, and that an increase in his ability to stand alone would change his dependency all around. It might indicate a healthy heterosexuality due to an opportunity through his sister to enter the girl groups. His position was so clearly set forth, however, particularly in contrast to the general room pattern, that the possibility of an incipient feminine pattern of behavior should not be entirely discounted. Miss Johnson was not alarmed at it, but decided to study it closely as the opportunity presented itself.

There were six choices between boys and girls. Frank figured in four of these—his choice of his sister and Sharon, and his sister's and Carol's choice of him. The other two choices were from Roger to Mona and from Albert to Julie. Albert and Julie were both good readers. The reason for Roger's choice of Mona did not correspond to any impression of either that Miss Johnson had, nor, of course, was it necessary that it ever should. Mona was sweet, pretty, and artistic—perhaps that was enough.

Of particular interest were the groups within groups that showed in the sociogram. Not all of these were apparent at first glance, but Marion noticed the Majorie-Helen-Gail-Marjorie triangle, the Judy-Jean-Mary-Judy triangle, the Julie-Judy-Jean-Julie triangle, and the Janet-Geraldine-Selma-Janet triangle. Among the boys, groups of three included John-Larry-Ray-John, Warren-Roger-Milton-Warren, and others.

Miss Johnson knew that sociograms did not always show what they seemed to show—that they had to be used with discretion. She found them interesting, however, and planned to make another before too long, since

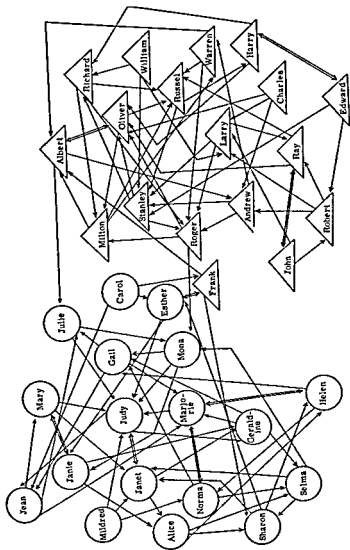


Figure 3. The sociogram.

groups shift frequently and suddenly. She would like to see what effect, if any, would result from the classroom atmosphere she was trying to establish.

Miss Johnson could see that in many cases the seats the children had selected the first day were related to their choice of friends. John and Ray, mutual choices, sat next to one another, as did Harry and Edward, Albert and Oliver, Marjorie and Norma, and Marjorie and Helen. Janie and Mary were not near one another. Single or one-way choices were also frequently seated in close association. John—Robert, Mona—Judy, Esther—Judy, Carol—Esther, Mona—Gail, Milton—Russell, and others. On the other hand many choices were seated far apart: Larry—Ray, Albert—Julie, for example. Marion decided that she would code the lines in terms of first, second, and third choices as she planned her re-seating chart. She knew that, if she were to build up the confidence the children had in her, she must change some of the seats, after having collected the data on the promise that she would.

THE OUTCOME OF THE UNIT ON GROUP ORGANIZATION

Thus Marion Johnson began the development of the projects that started her first year of teaching. The chairmanship of the room as it passed about among the pupils maintained their interest in parliamentary law. In discussion, a list of local uses of rules of order was suggested and made. The list began with (1) the Woman's Study Club, (2) Co-op meetings, (3) Union meetings, (4) Jewish Educational Council meetings, and (5) School Board, and was enlarged later to include (6) Chamber of Commerce, (7) City Council, (8) Parent-Teacher Association, and (9) Toastmasters Clubs.

Mrs. Friswold came to school and talked with the children about parliamentary law and a report was made of her discussion and the questions it raised. Albert asked questions that could not be answered. It was decided to ask the Chamber of Commerce for a speaker, and Mr. Anderson, its secretary and parliamentarian (a lawyer), came one morning at nine o'clock. The children prepared for him, and he for them. He called Miss Johnson at home to find out "what it was all about." She was confident of her group and told him to be prepared for hard questions and to feel free to answer them fully. Mr. Anderson was so enthusiastic after his visit that he arranged for the whole class to visit a regular Chamber of Commerce meeting. Later the class visited a City Council meeting. Meanwhile, the children did a great deal of reading.

The Mayor, who was a member of the Chamber of Commerce, also became interested and wrote a letter suggesting that the class choose a team

to come and put on a program for the newly organized Pleasant Valley Improvement Association. This gave Miss Johnson an excellent chance to provide work for the better students, and encouraged the rest to learn from them. The final scene was a demonstration of parliamentary law in action put on by 16 of the pupils, followed by a panel where the audience asked the "experts" difficult questions, such as: which motions have precedence, which motions are debatable, what is meant by a point of order, and many others. The panel of experts was made up of Albert, Gail, Milton, Judy, and Mary. The demonstration was built around an imaginary Community Improvement Council and featured debating and voting about the expenditure of money on a conservation program for the area. In preparing the script, the whole class studied a great deal of science, including agriculture, water supply for humans and for crops, soil erosion, water power, utilization of waste land, and similar subjects.

The project was so unusual in that school and community that, at the request of the local Chamber of Commerce, a daily paper in the city sent out a feature writer and a photographer. The local weekly also wrote up the project. Miss Altonweather was quite pleased, too, but there was some frostiness on the part of two of the teachers. Marion did not talk about her work with the other teachers in any way that she thought would set her apart from them, nor did she criticize what they did in any way. She acted as surprised as they were at the attention the project received, and in fact she was. She knew the unit was far from perfect; she could see many inadequacies as it developed. She judged it not by the attention it received but by the contribution it made to all her pupils.

The final activity in the unit was the presentation of the model of parliamentary procedure and the panel of experts at the crowded P.T.A. meeting. In the course of the unit, the pupils had read widely, written letters, made reports, made up the skit, practiced answering questions before a microphone, used a tape recorder to study their diction, learned about government, about community activities, about everyday science, and about how to work together to attain mutual purposes. At the final meeting, when the "experts" were asked where they had seen the best examples of running a meeting according to rule, Albert, who was a moderator, referred the question to Mary Friswold who said, "I think the grownups who did it best were at the union meeting of the truckdrivers."

papers, and the like, (3) the use of nicknames, (4) the meanings of names, (5) how names evolved historically, (6) how names could be legally changed, and (7) how names did not necessarily indicate nationality.

The pupils examined the names of early pioneers in Pleasant Valley at the County Historical Society for leads about which peoples had first settled the region. They found out about the people whose names appeared on some of the older buildings in town. They tried to get people to come to school to tell them about the origin of names in various foreign countries, but found that they already knew more about it from their reading than any of the people they could find. They did find two families (in the room) who had kept rather complete "family trees" (Friswold and Hopkins). The pupils who discovered what their names meant wrote papers on their findings and took them home. The names of various parks and streets led also into the history of the community.

Miss Johnson felt that the main outcome of the study of names was in the emphasis it gave to people, their importance as individuals, their contributions to their fellows, and their right to be treated with respect. Unusual names in the community were brought in and discussed, not as being funny but as having use and meaning.

These results were tied up in reports that were given in late November, and the children went on into two other areas that had been opened up through their interest in names. These were units on old world background and on the local community.

THE STUDY OF THE COMMUNITY

The map of Pleasant Valley when completed in outline was four by six feet in size. On it were streets, parks, schools, public buildings, and other places of general interest. A smaller map on a larger scale showed the business section with every business building located on it. Another map showed the trade, industrial, and farming area surrounding the town. Here the homes of all the pupils were located. A traffic map was made showing the intersections having the most automobile and pedestrian traffic. Actual counts were made by committees at various times of the day. The cooperation of the Chief of Police and a Deputy Sheriff was secured in this work. New maps and traffic counts were made that were more complete and accurate than those previously at hand. Some changes in "police routes" for pupils as they came to school were made as a result of the survey. The pupils were astonished to find that there were chain drugstores on two of the three busiest intersections in the community, with a locally owned drugstore on the third one. They found out from the community librarian that large businesses paid premium prices for such locations and agreed with her that her library should have space on one of those busy corners.

since "people should be able to get books about things when they need them."

In making the maps, the pupils learned how to read maps in general, how to construct and read maps to a scale, and, as a consequence, discovered mathematics to be a valuable tool. Albert became interested in large-scale maps and in various projections by which to illustrate large land areas on flat surfaces. Marion helped him as much as she could and then he consulted a local surveyor and engineer. Other children made simple traffic counts during carefully spaced and measured periods. As the year advanced, the arithmetic books were used less and less as a source for problems, and more and more as a reference and as a place to find drill materials to memorize. Much time was spent on drill.

*In the survey of the community, many visitors came to school. They came from the monument factories, the quarries, the bank, the truck transfer company, the creamery, and the farmers marketing cooperative. Three farmers came. One of the best presentations was made by the lumber yard manager. The airport sent a dispatcher. Whenever possible, representatives were chosen from the families of pupils. Mr. Hammond came, as did Ray's uncle, the well digger. After Mr. Hammond's discussion of the bottling business, another "bottler" sent word to school that his business had been missed. The notice came verbally from Larry, whose father drove a truck for a bottled gas company. The petroleum company supplying the gas had a great deal of informative material to send to school, and Larry's father brought it when he came. He also left a film that his company used with its salesmen-drivers. Larry and two of his friends carried that project still further, reading in the *National Geographic* and the *Junior Scholastic* about petroleum and its sources.*

By the latter part of the school year, the children's interest in the community had extended to the agricultural area surrounding Pleasant Valley. The children were seeking to understand the value of soil, the relationship of soil to their welfare, the different kinds of soil, the fertility of the soil, the danger of soil erosion, the ways to prevent or control erosion, and the factors that make for good fertility. In discussing the conservation of soil, the children made a list of places where help might be secured in conserving soil. Under improvement of soil, the children discussed the composition of soil, the kinds of crops that improve soil, and the use of fertilizers. The children read about the effect of weather on soil, particularly heavy rainfall. For example, the composition of the soil affects its reaction to rain, hence some soils get dry and hard after being wet. The cash value of crops came in for study. Income crops that may be rotated to build up the soil were read about and discussed.

The children built up a terrarium in which they placed soil and earth-

worms. They found that the earthworm was a soil helper and they read about why this was true. The county agent visited the school and gave them many pamphlets to use in their search for answers. They also received help from 4-H club leaders. The children read poems about farm life, and they composed some poems about growing things. They learned to test the acidity of soils. On a field trip they observed signs of erosion and noted soil conservation practices on a farm and studied top soil and sub-soil along roadside banks. On their field trip they collected vegetation to plant in the terrarium. The weather was studied in relation to soil conservation. The children drew pictures showing good farm practices, and they used clay to model farm animals. On the field trip they measured the depth of the gullies and estimated the square yards of top soil and sub-soil that were lost in such gullies. They used mathematics also to study the number of acres in various farms, the crop production per acre, the price of crops per bushel, the consumption of grain by farm animals, and the resultant comparative desirability of different kinds of farming.

It was possible to introduce many music experiences in the development of the "community" unit. Some of the children were interested in the Pleasant Valley Brass Band, an organization that had been active in Pleasant Valley for 50 years. The oldest member of this band, and at one time its director, came to school to tell the children its history. He told them how important music was in the life of a community, described many of the celebrations at which the band had played, and gave the children the names of many of the pieces that the people loved the most. He contrasted band music with other kinds of music.

Music contributes to finer living, but if a child is to become sensitive to beauty in music, music must contribute to his happiness. Marion devoted many periods to listening to music with her pupils, though they seldom exceeded 15 and never 20 minutes in length. Marion tried to find records or tapes appropriate to the interests the children were pursuing at the time. She also introduced many creative music activities. For example, after the children had visited the farms, she let a group of boys experiment with imitating the sounds of animals. They went to the auditorium and used the piano. Julie and Mona went with them and helped them make a poem from the sounds they devised. They used the sounds and the poems as the basis for a rhythmic dance in which various children played the parts of the farm animals. They called the dance the "Big Kids' Kindergarten," and they burlesqued it just a bit to show their superiority to the thing they were doing. Marion was quite pleased at the humor displayed in this part of the project.

In studying the health of the community, committees of children visited the doctors' and dentists' offices, the local veterinarian's office, and one

of the pharmacists at Peterson's Drugstore. One of the doctors gave them a copy of an article from the *American Medical Association Journal* that told about the ratio of doctors to population. The children used this material as the basis for a number of arithmetic lessons. The dentists gave them some materials about composition of teeth, fluoridization of water to prevent tooth decay, and the necessity for certain elements in the diet if growing children were to have good teeth. The pharmacist told them about vitamins and minerals and a lot about chemistry that served to develop the children's interests in science.

The veterinarian gave them much information about the proper feeding of farm animals. He told them that you could tell how fat or how lean the meat of an animal was before you butchered it by weighing it when submerged in water up to its neck. This was an item of great interest to them. It led to discussions involving diet and the weight of substances submerged in water and presented an opportunity for the extensive use of mathematics.

The pharmacist told the children about the poison signs on bottles and he warned them of the danger of saving old medicines. He told them how you could put pins through the corks on bottles of poison so that you would not pick them up by accident in the dark. He told them how frequently young children got possession of sleeping pills and other medicines that could cause sickness or death. These instructions led the children to read a great deal about safety. They made surveys of medicine chests in their own homes, and their compilation of a list of common poisons and the common medicines that are dangerous if taken in large doses aroused a good deal of parent interest. Many parents complimented Miss Johnson and Miss Altonweather on the interest the children were showing in things around the home related to their own welfare.

One of the physicians talked to the children about immunization. As a result, the children made a survey among their number of vaccinations and diphtheria immunizations. They studied chest x-rays and other public health measures. After they had studied for some time, a number of questions came up upon which they needed more help so they invited the county nurse to visit them as soon as possible. When she came, they showed intelligent interest in many of her instruments. She used a tongue depressor and had the children look into each other's throats. They saw how the throat opened up at the whispered "Ah." They examined the clinical thermometers. They felt each other's pulses. At Miss Johnson's suggestion, the nurse took the pulse rate of three children and then had them run outside around the building and back, and then took their pulse again. The nurse explained that there were temperature variations, too, in terms of the time of day, the amount of activity, and various other factors besides illness.

The final report on the community study was organized in four headings, with various sub-topics upon which one or more papers were written.

- A. What does it take to have a community?
 - 1. People
 - 2. Government
 - 3. Business
 - 4. Money
 - 5. Food
 - 6. Shelter and clothing
 - 7. Roads and highways
 - 8. Homes
 - 9. Land
- B. What goes on in our community?
 - 1. Trade and business
 - 2. Agriculture
 - 3. Health service
 - 4. Schools
 - 5. Churches
 - 6. Shows, parks, libraries, and recreation
- C. What makes a good community?
 - 1. A clean and healthy place
 - 2. A safe place
 - 3. Good buildings
 - 4. Beautiful parks, streets, and homes
 - 5. Good laws
 - 6. Good churches
 - 7. Good schools
 - 8. Good people
- D. How can we improve our community?
 - 1. Be good citizens
 - a. Obey laws
 - b. Do not destroy property
 - 2. Pay taxes
 - 3. Get a public swimming pool
 - 4. Get a public skating rink
 - 5. Treat all citizens alike—be democratic
 - 6. Help those who need help—be kind
 - 7. Use knowledge of science to improve living conditions
 - 8. Practice conservation
 - 9. Better schools—night schools
 - 10. Contribute to Community Chest
 - 11. Vote
 - 12. Attend school board meetings and city council meetings

Under trade and business, for example, there were many reports on the various types of industries. The essays under Parts A and D were far less extensive than was the material in Parts B and C. The organization was not entirely consistent and there was overlapping, but Miss Johnson knew that it was exceptionally good work for a fourth grade, and she

refused to refine and organize it according to her own ideas. The essay on better schools and night schools ended with this statement, "There are lots of things to learn that people don't know. They have night schools for this. There should be one in Pleasant Valley."

FOURTH-GRADE INTELLIGENCE TESTS

Late in September, Miss Altonweather brought in Otis Intelligence Tests that Marion administered and corrected. She compared the results of these tests with her impressions of the children and with the Detroit Intelligence Tests that had been given in the first grade. She knew that the Otis tests tended to group the children around the center of the curve and to reduce the number of scores at the very low and the very high levels. However, in most cases the children's I.Q.'s did not change greatly. This was true for William, Harry, Janie, Milton, Larry, Charles, Carol, John, Mona, Andrew, Geraldine, Roger, Russell, Robert, Stanley, Selma, Helen, Esther, and Frank. There were some significant drops in measured intelligence: Sharon 120 to 94, Ray 141 to 102, Judy 130 to 116, Janet 124 to 109, and Julie 141 to 128. There were some significant increases as well: Jean 99 to 118, Oliver 96 to 117, Gail from 95 to 119, Albert 125 to 139, Marjorie 86 to 109 and Mary 113 to 132.

NOVEMBER ARITHMETIC TESTS

Early in November, Miss Altonweather brought in fourth-grade Stanford Arithmetic tests in computation and reasoning. The results showed that the fourth grade ranged from some children whose scores were below the third-grade level to one whose score was three months into the sixth grade. The median score in arithmetic computation was the first month of the fourth grade, and the median score of arithmetic reasoning was the second month of the fourth grade.

Marion saw that Marjorie was second highest in arithmetic reasoning and very high, too, in arithmetic computation. Her new I.Q. of 109 was more in keeping with such high arithmetic achievement than her first-grade I.Q. of 86, but Marion was not yet satisfied with the measures she had on Marjorie. Ray's marks in the arithmetic tests placed him in the upper five or six in the room, but his fourth-grade I.Q. of 102 was much different from his first-grade I.Q. of 141. This was another possibility for further testing Marion thought. Albert Ericson's test pattern was consistently high. Julie was much higher in arithmetic reasoning than she was in arithmetic computation. It seemed clear that her interests were not primarily mathematical. With such high intelligence and with such high ability in arithmetic reasoning, Marion resolved to be on the lookout for chances to motivate and interest Julie in mathematics. To do so she knew that she

FOURTH-GRADE TEST RESULTS IN
INTELLIGENCE AND ARITHMETIC

Pupil	Fourth Grade Ons I Q	Stanford Arithmetic			
		Computation		Reasoning	
		Age	Grade	Age	Grade
Affleck, Jean	118	9-2	4.2	8-9	3.8
Anderson, Norma	84	8-9	3.8	9-6	4.5
Carew, Mona	95	8-6	3.5	8-9	3.8
Carlton, Richard	103	7-9	2.8	7-10	2.9
Clarkson, Harry	94	9-3	4.3	9-2	4.2
Dickey, Carol	101	9-7	4.6	9-6	4.5
Dickinson, Russell	92	10-3	5.2	9-5	4.4
Eriqson, Albert	139	11-0	5.9	11-4	6.3
Flick, Jamie	121	8-9	3.8	10-2	5.1
Forsch, Larry	94	8-5	3.4	8-4	3.4
French, Julie	128	9-0	4.0	10-3	5.2
Friswold, Mary	132	9-0	4.0	9-8	4.7
Harper, Oliver	117	9-2	4.2	9-11	4.9
Hopkins, Gail	119	9-6	4.5	9-11	4.9
Knott, Esther	101	9-1	4.1	9-5	4.4
Knott, Frank	102	8-9	3.8	8-9	3.8
Kremer, Janet	109	10-3	5.2	9-6	4.5
Lane, Mildred	90	8-6	3.5	8-4	3.4
Larson, Andrew	103	9-0	4.0	8-9	3.8
Liebermann, Milton	120	9-2	4.2	10-3	5.2
Littlejohn, John	105	8-1	3.0	8-3	3.2
Murphy, Charles	90	8-5	3.4	8-7	3.6
Norman, Judy	116	9-0	4.0	9-6	4.5
Ober, Warren	103	8-9	3.8	8-9	3.8
Pogue, Sharon	94	8-8	3.7	8-7	3.6
Reuther, Geraldine	108	9-1	4.1	10-2	5.1
Sahr, Alice	103	9-0	4.0	8-7	3.6
Schora, Roger	107	8-8	3.7	9-6	4.5
Schultz, Robert	94	9-8	4.7	9-0	4.0
Sheldon, Ray	102	9-7	4.6	10-2	5.1
Smith, Stanley	108	8-9	3.8	9-5	4.4
Stark, Edward	90	8-5	3.4	8-1	3.0
Taylor, Marjorie	109	9-8	4.7	10-8	5.6
Thompson, Helen	105	8-9	3.8	8-7	3.6
Toivenen, Selma	94	9-8	4.7	8-7	3.6
Toole, William	91	9-0	4.0	8-8	3.7

would have to show Julie how mathematics could contribute to her literary, artistic, and poetic tendencies.

There were many interesting individual differences to be seen even with the small number of test results available in Miss Johnson's room. William Toole was about average in fourth-grade arithmetic, but he had been far below average in third-grade reading; he stuttered slightly. Harry rated even better in fourth-grade arithmetic than did William and even lower in third-grade reading than did William. Harry's reading was not as good as

RANGE IN RESULTS IN MISS
JOHNSON'S AUTUMN FOURTH-GRADE
TESTING

<i>Range in Grade Level from Low to High in Arithmetic Computation of 24 Fourth Graders</i>	<i>Range in Grade Level from Low to High in Arithmetic Reasoning of 34 Fourth Graders</i>	<i>Range in Otis I.Q. for 36 Fourth-graders Tested in Fourth Grade</i>
2.8	2.9	84
3.0	3.0	90
3.4	3.2	90
3.4	3.4	90
3.4	3.4	91
3.5	3.6	92
3.5	3.6	94
3.7	3.6	94
3.7	3.6	94
3.8	3.6	94
3.8	3.7	94
3.8	3.8	95
3.8	3.8	101
3.8	3.8	101
3.8	3.8	102
4.0	3.8	102
4.0	4.0	103
4.0	4.2	103
Median	Median	Median
4.0	4.4	103
4.0	4.4	103
4.0	4.4	105
4.1	4.5	105
4.1	4.5	107
4.2	4.5	108
4.2	4.5	108
4.2	4.5	109
4.3	4.7	109
4.5	4.9	116
4.6	4.9	117
4.6	5.1	118
4.7	5.1	119
4.7	5.1	120
4.7	5.2	121
5.2	5.2	128
5.2	5.6	132
5.9	6.3	139

one would expect from his 94 I.Q. Janie was better in reading than she was in arithmetic and this was true also of Jean, Andrew, Gail, Mary, and Julie. On the other hand, many of the children scored relatively higher in mathematics in the fourth grade than they had in reading in the third. This was true of Ray, Charles, John, Geraldine, Alice, Russell, Selma, Esther, and Frank.

JOHN LITTLEJOHN BECOMES
A PERSON

The break in John's problems came when his stepfather, Mr. Hammond, was invited to visit the classroom to tell about the bottling industry. Contrary to Mrs. Gilbert's opinion, Marion found him a serious-minded man and destined soon to become local manager for his company. Marion had visited the Hammond home before the invitation. John's mother had greeted her in a friendly but somewhat subdued manner. She did indeed seem a bit crushed and beaten. Marion saw that something had driven her to retreat into her home and into herself. These were purely matters of speculation, Marion knew, but they offered clues to the problem facing John. Obviously his mother felt some sort of social inferiority and disapproval. Mr. Hammond did not seem to be a party to this feeling at all. A serious man without great imagination, he saw his wife as a fine woman with an education and background he admired. He went about his work honestly and conscientiously. He regarded his stepson as difficult to discipline and he accepted as natural the fact that John seemed to resent him. He did not see John's difficulties at school or elsewhere as having any connection with his mother's first marriage or with her marriage to him. He was apparently unaware of any community disapproval, which, in fact, was *not directed at him*. He was *fond of John* and assumed that he would grow up to be either good like his mother or bad like his father. He had not considered the part played by Mr. Littlejohn in John's life as being within his right to limit or control.

Marion had discussed John with Mrs. Hammond as a boy of whom she was fond, as a boy who had problems just as all other children had problems, as a boy whose experiences should be planned to be of help to him. Marion did not discuss John's deeper emotional needs and his probable feeling of insecurity, because she was not sure of her diagnosis or of his mother's ability to understand the tentative nature of her theories. She did, however, discover that John had not been legally adopted by Mr. Hammond and that Littlejohn was in reality his legal name, that generally in such cases children go by the step-father's name, but that Mr. Littlejohn insisted that John use his name (Mrs. Gilbert heard of her visit and tried to get the "low down" on it, but Marion was pleasantly and disarmingly uncommunicative.)

During the children's studying of the various industries in the community, they had made an extensive list and then decided on those they wished to hear more about or visit. They thought it would be wise to start with those parents who worked in the various industries, since they would be better able to fit into the plan. Mr. Hammond was third on the

list, following Mr. Harper, who had told about the granite and monument business, and Mr. Reuther, who was a post office employee.

The children had delegated John to ask his stepfather to visit the class. They had previously developed an outline to be given ahead of time to all visitors from community businesses, so that they would know what the children wished to have covered. In this case, because it was crucial, Miss Johnson called Mr. Hammond by telephone after John had given him the message, to be sure that his contribution would be of great interest in order that John would gain status from it.

His presentation did, in truth, gain this objective. He had many pamphlets, charts, and colored pictures, an analysis of the nutritional qualities of many beverages, and he told about sanitation and cleanliness in the bottling plant. Miss Johnson had referred to him casually as John's stepfather. The children accepted him as an adult who was important in providing them with one of the luxuries of their living. Miss Johnson treated both John and his father with great respect, asking questions about things she did not know.

The visit to the plant was even more interesting. The bottlecapping machines, the sterilizers, the loading platforms, the trucks, the syrups, the carbonating machines, and the safety devices, all got their share of attention. Miss Johnson discussed the importance of the project with Miss Altonweather, who drove over for the last part of the visit and for the refreshments that followed the tour. Miss A. played her part well. She thanked Mr. Hammond on behalf of the school and acted obviously pleased at his knowledge and hospitality.

John played an increasingly active part in class affairs during this time, and so did Ray, Larry, and Robert. After it was all over, he seemed aware that his stepfather was accepted as important by the children, and that the stepfather relationship was something that could be referred to publicly and openly. Marion saw that John was more at ease and more self-confident, mainly because of his increased standing with his peer group. She knew that his longstanding problems could not be solved entirely by a few months in an improved school environment and she was right. He continued upon occasion to withdraw from his group and to strike back, particularly in his life outside the classroom and the school, but there was distinct improvement even in these areas.

When she met Mr. Hopkins, Gail's father, who was a scoutmaster, she found an occasion to tell him about the fine cooperation Mr. Hammond had given to her room and of his interest in youth. Before Christmas, John had given to her room and of his interest in youth. Before Christmas, John had given to the class that his stepfather had a troop. Through such activities Mr. Hammond gained further prestige among John's peers and among adults in the community. When she met Mrs. Hammond shortly afterward,

she made a point of telling her how fine everyone at school thought it was that her husband was helping the scouts.

In other activities, Miss Johnson also found a chance to help John. A good illustration was in the study of names and nicknames. The pupils listed many names with their customary idiomatic variations. They studied the way the same name appeared in different languages. They studied the necessity for using the real name in official papers, so that clear identification could be established. They found out how the wife takes the husband's name, and how the children take the father's name. Casually and without emphasis, but in the background of its legal and social necessity, the case of children living with stepfathers was discussed. They found that both John and Nathan mean "gift," Charles means "strong," Richard means "powerful," and so forth. They found out how names like Greenfield, Whitehill, Washington, and Littlejohn got started. In all this, involving the nationality and meaning of names, the children grew to regard names as primarily a means of identification.

This story could be continued. Mr. Hammond became more important in John's eyes, and his community status improved in Mrs. Hammond's eyes as did John's assessment of his own place in the scheme of things. He became a real part of his peer group, accepted by it. He had found a classroom with many opportunities to do constructive things, and a teacher who was not concerned with dominating him, but who somehow seemed interested in helping him. He and others found it easy to say what they thought. For the first time in his life John had found an adult to whom he could talk frankly without getting buried in shock, good advice, or acclaim.

• Discussion Questions

1. Is Albert Ericson a potential problem? What might Marion be doing to guard against the development of an unhealthy perfectionism in Albert? Complete the story of how she may have dealt with him.
2. Evaluate the inadequate testing program in the Pleasant Valley School and suggest some improvements.
3. Discuss the rather impromptu way that John's provisional promotion was made. Did Marion's attitude have anything to do with it? Is this the way such decisions should be made?
4. Miss O'Leary was much different, as a teacher, from Miss Johnson. Does this mean that she was a poor teacher? Describe and evaluate her.
5. What lesson for modern education can you draw from the incident where Gail Hopkins drew on her experience in the "Blue Birds" to tell how chairmen are selected? How much did the children know about rules of order when the question first came up?

6. Should Marion have punished the two boys who wrestled in the classroom at the beginning of the second day? Discuss and evaluate what she did.
7. When the children in our group were arguing over whether Roger or Janet should be chairman, why did Marion point up the question, make a suggestion, and then move away? Should she have been offended that her suggestion was not accepted? Pleased?
8. Mary Friswold was extroverted and dominating but not overly popular with her peers. What type of assistance did she need? Give your answers in terms of a developing curricular situation.
9. Notice evidences as the story goes along of the expectation and desire of the children to drop into the conventional classroom behavior, where the teacher makes decisions and the children carry out assignments. Discuss the significance of this tendency. Where may it have come from?
10. What would you think when you discovered that John Littlejohn's reading had not improved during the year he was in Miss O'Leary's room? Should Marion have mentioned this to Miss O'Leary? What had been Miss O'Leary's apparent objective in dealing with him?
11. Miss Altonweather's policy in regard to the required purchase of notebooks by those who can't afford them seems enlightened. Discuss some of its strengths and shortcomings.
12. Do you believe Marion should have used the prepared letter charts or written the alphabet on the board herself?
13. Why did Miss Johnson tell the children that all parents did not go to meetings and that some parents might not be of help in their study of rules of order?
14. What do you think of Marion's skill in leading the children into geography, reading, and dictionary study from their interest in names?
15. How do you suppose Marion worked with Selma in order to gain her help in giving status to slow achievers?
16. Discuss Marion's early attempts to adjust the work to individual differences. Use the letters written home on the first Friday as one example.
17. When Miss Johnson told the class that fourth-graders frequently voted boys versus girls, how might this have been done in an awkward or unfortunate way?
18. Was it just a passing, kindly whim that made Marion suggest that some of the girls stay and wait for Gail that first Friday evening, as she worked with Gail on the next week's plan?
19. What were some of the differences between the broken home situations of John and of Larry?
20. Do you see how Marion began at once to individualize arithmetic instruction through her early use of the simple inventory tests?
21. Discuss Marjorie's failure to gain Marion's attention at first in the light of her later achievement and her position on the sociogram. Do teachers see in pupils what pupils see in one another?
22. Marion's interest in the "real whole child" led her to notice many things that other teachers miss. As the children selected things to read to her, why did she notice (and make notes on) the children who selected poetry?

Find other illustrations of things Marion noticed that you might have disregarded.

- 23 Can you imagine some of the changes that the socialized atmosphere will bring about in Marion's next sociogram?
- 24 Write a case study of Frank, as you imagine he progressed during the year.
- 25 The trick, in the first days of an experience with a class, is to avoid setting a pattern or atmosphere that will later inhibit what you wish to accomplish. Discuss Marion's efforts to avoid early "authoritarianism." Discuss where she "directed" and where she elected to let the children develop power.
- 26 Do you believe Marion will have sufficient time for remedial work as her program develops?

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A MAN IN THE

The interests and abilities of sixth-grade children make it possible to develop broad units. A study of lakes may lead to the related problems of safe supplies of water, sewage disposal, rivers, conservation, erosion, geology, and bacteria. These topics call for reading, spelling, organizing ideas, and writing clear prose.

Herbert Zan had taught for seven years before he came to Amber City to teach sixth grade in the Columbus School. Amber City had two hundred and fifty thousand people and an extensive suburban population. Its school system, with over 2,200 teachers and other employees, seemed to him to be a big institution. He had previously taught two years in a nine-teacher district and three years in a twenty-two-teacher district. After having grown up in a small town, he had attended a metropolitan university for four years and two subsequent summers, and had spent four years in military service. Along the way, he had acquired a wife and two babies.

Getting settled in the city was in itself a bit unsettling. He was not able to find the desirable living quarters that he and Mary wished, and the rent seemed extremely high. They hoped that soon they could find a home to buy, but that would have to wait.

The Amber City schools had developed an orientation plan for new teachers. There were bulletins telling of the school calendar, salary schedule, current and cumulative sick leave, retirement, various rules and regulations, school board organization, reporting and record keeping, school organization, functions of executive and administrative officers, probation and tenure, community resources, various special school services, other community agencies that cooperate with the schools, audio-visual aids available, and various general and specialized curriculum bulletins. Some of the bulletins were helpful and complete, while others were sketchy, out-of-date, or ambiguous and obscure. There was a planned program by which new teachers could get acquainted, and it assisted Herbert and Mary in getting started in the schools of the community.

Miss Tate was the principal in the sixteen-teacher Columbus School to which Herbert was assigned. She helped Herbert get started with his work. She was interested in him as a person and made early plans to meet his wife and two children. Herbert found that she knew the children and the parents in her district well.

There were 32 children in Herbert's room—20 boys and 12 girls. The ratio of the sexes

was about reversed in Miss Brown's sixth grade across the hall. Apparently Miss Tate had felt that Herbert might be better able to work with the older boys than Miss Brown, and had assigned most of them to him. After a day or two, he learned with amusement that he had all the "live wires."

An intelligence test given when his group had been in the fourth grade showed a range in I.Q. from 79 to 131. Other low I.Q.'s were 85, 86, two 89's and two 90's. High I.Q.'s besides the 131, were 124, 121, 116, 115, 108, 107, and three 105's. The median I.Q. was between 102 and 103. At the end of the fourth grade the median achievement test scores in the group had been at "standard." Fifth-grade reading scores available for 25 of the 32 children ranged from low second-grade to above the eighth-grade level. In October of the fifth year, six of the 25 children had been reading at or above the seventh-grade level while three others had been at least one year advanced. In language too, the group was approximately average, though the range was from the third- to the eleventh-grade level. In spelling, the range was from third- to tenth-grade level.

A sociogram of the room showed an interpersonal structure with moderate interaction. With three choices, there were four children who were not chosen. There were three or four small closed groups in the room between whose members and the rest of the grade there was not much interaction. The most favored positions fell to four students rather than to one or two. In general, the social pattern seemed typical.

GETTING STARTED

Mr. Zan began his sixth-grade work in a forthright and businesslike manner. Textbooks were passed out, seats assigned, the roll taken, study assignments made, and recitations held. He felt that the students expected this sort of regime. Having assessed the school and the expectations of principal and teachers regarding his place in it, he adapted his beginning work to it. A relatively conventional daily program was outlined and followed. From the very first, however, he set aside one hour a day for conversation and discussion. In these periods, he let the pupils express themselves freely about their likes and dislikes, their hobbies and activities, their problems and their hopes for the future. He was interested particularly in finding out what the attitudes of the children were toward the school and the subjects they studied in the school. He was interested in their attitudes toward the teacher as a position rather than as a person. He studied their attitudes toward one another. He was interested in obtaining frank statements from them concerning their ideas about scholarship, discipline, playground conduct, classroom conduct, and out-of-school conduct.

He got some ideas about the family standards of the children by discussing with them their activities during the summer. Of the 32 children in the

room, seven had spent from one week to a month in summer camps away from their parents, while eight others had had the privilege of getting away from the city with their parents to lakes or farms in the suburban or rural areas. Seventeen had spent the whole summer at home in the city with only occasional weekend trips. Sixteen pupils, one-half the class, had earned their spending-money from people other than their parents. Mowing lawns and baby-sitting were the two most popular money-making activities. Mr. Zan made notes of as many of these observations as he could.

From these discussions, an interest was developed in recreational facilities in the neighborhood, and a unit began to develop along that line. At the start, the students talked about the part of the city in which they lived and listed the recreational areas. There was a large city park at the extreme western end of the district and another one at the extreme eastern end. In one or both of these parks there were public golf courses, baseball or softball diamonds, tennis courts, swimming pools, greenhouses, extensive flower and botanical gardens, a zoo, and equipment for water sports such as boating, water polo, and surf-riding.

Neither of these parks was within walking distance of the homes of most of the boys and girls. In the more immediate neighborhood, there was a city playground upon which the children could skate, or play baseball, football, and softball. The playground had a small clubhouse in which were toilets and washbowls and a small space used in the winter as a warming house. In addition, there was an office for the playground director and a storage room for playground equipment. There was no place for indoor play on rainy days or cold winter days. The school playground also was available, but this comprised only half of the city block upon which the school was built. The other half was taken up with the building and with the landscaped lawn upon which play was not permitted. The school playground was unsupervised during the summer months. All this was ready information that came out in the discussion.

The children became interested in making a survey of these facilities near at hand. As a first step, they needed a map showing the playground and recreational facilities upon which children resident in the area could be located by placing dots. A committee was assigned the job of making a map of the school attendance district upon which the dots could be placed.

"We need people to do it who can draw well and who know how maps are made," Mr. Zan said. "What do we need to know in order to make a map?" The answers came rapidly, from seven or eight of the students.

"You have to know where north and south and east and west are."

"You have to know the streets."

"You have to show the stop streets and the bus lines."

"You have to know how to get the distances all the same."

As the suggestions were made, Mr. Zan wrote them on the board and made brief comments. It was a fine opportunity to build vocabulary. For example, "Show north, south, east and west—*cardinal* points of the compass", "Show stop streets (*arterial*)"; "Show distances—draw them to *scale*." The last item led to a brief discussion of *ratio* and *projection*. Few if any of the children understood the words at first, but some followed the discussion as Herbert used some simple illustrations. He told them a brief, true story of how important maps were to soldiers in the field. A committee of three boys, John, William, and Lars, was selected at the end of the discussion. Herbert thought it best to use a small committee the first time to see how well it would work. He wanted to make committee membership desirable and pleasant as well as educationally profitable. "I will see if Miss Tate has a small map we can use to make our large map from. Meanwhile, I think the committee members should examine some maps and see what you can find about map making in your texts and references. I'll find some time for you to start on the map tomorrow."

Miss Tate had a map of the attendance district that she was glad to lend to Mr. Zan and the committee. She also had a roll of wrapping paper in the storeroom suitable for map making. "I got it through the Art Department," she said, "for making murals and things like that."

The next day when the time for geography came, Herbert said, "The map committee can work at the big table while the rest of us have geography." There were some study questions on the board relating to the text to occupy the class while he got the committee started. "Feel free to talk quietly and to consult the reference books. We will try not to let you bother us."

THE RESULTS OF ACTIVITY BEGIN TO SHOW

At the end of two days, the map was ready. There had been some false starts, but the final map was neat and clear, with streets, school, and playground carefully named. The committee presented the map to the class by describing what it showed. One of the boys was able to answer questions about the scale of the map.

"Miss Tate's map didn't have any scale on it," he said. "So we took a city map and found the scale on that—three inches for 5,000 feet. On Miss Tate's map, things were ten times bigger, so the scale was three inches for 500 feet. We made our map three inches for 250 feet, so that on our map one mile—that's 5,280 feet—is a little more than 21 inches long."

"How big is a block?"

"Some blocks are different than others. Some are long and narrow. The long ones have eight blocks in a mile so that's two and five-eighths inches

long on our map or about 220 feet." The three boys demonstrated some of their arithmetic on the blackboard. "You gotta know about fractions to do this part," one said.

"Now we have to put the spots on the map, where we live."

"All the kids or just our room?" came the question.

The committee members looked at Mr. Zan, expecting him to decide.

During the early days of the term, Herbert had made the decisions and established the discipline with a swift and sure hand. Now, it was necessary to "pass the ball" to the children as fast as they could be prepared to carry it.

"I don't know which is best," he said. "Perhaps you should discuss it with the class."

It was decided to put in spots just for the children in the room, since they were well spread over the district. Without help from their teacher, they passed out slips of paper and each one wrote his name and address. The next day, when the map was finished and placed on the bulletin board, Mr. Zan asked, "Any good map shows something important. What does our map show?"

The discussion brought out the need for a summary and with two girls, Alice and Wendla, added to the committee, a summary was made. Mr. Zan showed them how to tabulate the material, and they placed their summary on the board.

NUMBER OF CHILDREN AND DISTANCE FROM PLAYGROUNDS

<i>Item</i>	<i>Distance from School Playground</i>	<i>Distance from McDounough Playground</i>
Less than $\frac{1}{4}$ mile	8	3
$\frac{1}{4}$ to $\frac{1}{2}$ mile	10	5
$\frac{1}{2}$ to $\frac{3}{4}$ mile	12	4
$\frac{3}{4}$ to 1 mile	2	7
1 to $1\frac{1}{4}$ miles	0	6
$1\frac{1}{4}$ to $1\frac{1}{2}$ miles	0	7

The discussion of playground needs then turned to the facilities for play at the two playgrounds. There was a need for space for touch football and regular football for the younger fellows. In winter, the skating problem was the same. Older boys and young men at hockey pushed the younger ones aside. In the discussion period on Friday of the first week, a list was made (and saved) of needed facilities for existing playgrounds. It included space for the common outdoor games and a swimming pool and a gymnasium for basketball and volleyball, as well. The girls wanted a special rink for figure skating. One or two mentioned outdoor tennis, but indoor table tennis received a larger vote. Herbert thought that a warming house

for skaters would be essential if there was to be skating. The warming house might include space for storage of shovels and other tools. It might be possible also to enlarge it sufficiently for informal club meetings.

THE BEGINNING OF PUPIL-TEACHER PLANNING

On Friday, Mr. Zan held a planning period for the next week. "Should we do any more with our recreation survey and if so, what?" he asked.

"Why can't we have a better playground? Where my cousin lives, they have a swell playground and a big community house. They even have a stage and they have shows and everything."

"Why can't we use the schoolhouse on nights in the winter? My dad says that's what they do in some cities."

"Our gym ain't no good anyway!"

"Yeah! We could use the mats for tumbling."

"Who wants to tumble! Basketball! I'm going to be a forward in high school like my brother."

"I'll be a guard."

"You won't be a guard. You won't be nothing. Somebody'd come down the floor rat-tat-tat-tat-tat-boom and you'd be knocked out—boom! Georgie Price, he'd do it. Down you'd go."

"Yeah! Georgie Price—ping, ping, ping—basket, basket, basket!"

"Georgie Price, sure! What's he got to do with it? He's a professional. You guys couldn't play with him either. You couldn't reach his knee hardly."

The boys engaged in an orgy of fantastic imagination and recrimination, not waiting for one another to finish before interrupting, and not caring to listen as they belittled one another and expressed their own exuberant intentions. Mr. Zan spotted three or four boys who seemed particularly aggressive in the discussion, and noted that though they had participated capably in the physical education classes, they had not been overly aggressive there. John was the boy who had suggested being a guard. He had not appeared either exceptionally good or inept in physical education, but he was a good, if quiet, scholar. He had been chosen on the map committee. Apparently, and this Herbert would later have to confirm or reject, the children accepted his academic leadership but evened the score in other activities. He had not been rejected on the sociogram.

Herbert did not worry about the lack of order in this discussion or its seeming lack of bearing on the planning of the next week's work. It gave him a chance to observe his group in a new light and to assess individuals in other than purely academic endeavor. Were they, in their minds, playing basketball successfully with the great professionals while their fellows

were being trampled and found incompetent? Were they projecting themselves forward into the exciting activities of young manhood with all the energy of their young bodies? Or were they running wild, since their teacher had relaxed his firm grip for a moment, trying to make noise, waste time, show off, try out the teacher, and buck the school discipline?

Herbert was conscious of the passage of time but waited to see if the children would return to the map project. He realized they wouldn't without some assistance from him so he rapped sharply on his desk.

"Ruby, what do you think?"

Ruby looked at him blankly. She had been listening to the basketball chatter with only half an ear, but had forgotten the original question. Herbert thought she was probably at the stage where this boyish talk seemed very silly.

"I mean," he continued, "what should we do with our recreation survey?"

"There is a lot more than just the playground and the gym. I go to the parks even if they are far away. I took sketching last summer in a class at the Institute and we went to Indian Head Park for our classes."

The discussion came down to earth then. Some of the girls said there should be things for girls in the survey, too, and some of the boys said that boys were interested in other things besides games. They decided to seek answers to the following questions.

1. What recreation facilities do we have outside our school area?

2. Do we have as much in the Columbus School area as in other parts of the city?

3. What do our parks have for us, in addition to our playgrounds?

The map committee volunteered to make another map, this one to show the whole East Side of the city with its two big parks as well as various playgrounds and schools outside the Columbus School district. The committee agreed to make the map as meaningful as possible so that any person in the community could, by looking at it, visualize the needs of the whole area. The committee was anxious to make the map helpful in planning the best use of space in the East Side.

TRANSFER BOY

Friday after school, Mr. Zan was in the office with Miss Tate. She told him that a neighboring district to the west was often termed a delinquency area. Children in that area frequently got into trouble. A boy from there had been sent to a "home school" the previous March and had finished his fifth grade there. He was now being returned to the regular schools. He had attended his old school for two days the first week and then had "ratted." A vigilant principal had reported him, a visiting teacher had

interviewed his parents, and the boy had finally agreed that he would be willing to try another school. The boy had said he would rather go back to the home school than to attend school in his own district.

Miss Tate said, "I heard about this boy last spring. He kicked his teacher in the shins and swore at her viciously. They put him in another room in the same school, but the next week he broke into a parked delivery truck and stole some stuff and tried to sell it. That's why they sent him to the home school."

"I wonder why he kicked his teacher?" Mr. Zan asked.

Miss Tate knew the story and told Mr. Zan. It had been a case of an order that the boy refused to obey and that the teacher was enforcing. Mr. Zan was curious concerning the boy's earlier history and concerning the practices being followed generally in schools where there was a high delinquency rate. Miss Tate answered him as well as she could.

"There was a kid like that in the school I attended," Mr. Zan said. "He was older than I, but I knew him well. He swore at all the teachers and he quit school in the seventh grade. He enlisted and was killed in action. He is buried out in the Pacific now and his mother's got a nice letter from the War Department. He cursed a lot, but he stuck with his buddies and got killed doing it."

Miss Tate looked at Mr. Zan with renewed interest. His intensity and his seriousness in such discussions were always intriguing to her. "Perhaps I should find out more about this boy. Sounds like you think you'd like to take him."

"Sure," he answered, "why not? He's probably a good enough kid. After all, what are schools for if not to help the kids that need help?"

And so it was arranged. The record of the boy was to be sent to Mr. Zan before the boy appeared and the visiting teacher was to meet with him ahead of time to discuss the case. The boy was to be admitted without being made to feel that he was considered a "bad" boy. He was to understand that Miss Tate and Mr. Zan knew why he had not been successful in the other school and that a mutual arrangement had been made for him to try out in the Columbus School to see if everyone concerned could get along better.

FROM JUNK BOX TO BULLETIN BOARD

Mr. Zan had been building up his room resources during the first week in an effort to stimulate wide interests and discussions. In a box at the rear of the room beside the reading table he had put a collection of things that might serve as points of departure for children who were interested in gadgets and mechanical or scientific things. There was a flashlight of his that no longer lit up when the button was pressed. In the box, also, were a mouse trap that worked, some dry cells, some wire, a magnet, some

rollers made by sawing up a broom handle into eight inch lengths, some nails, a spring scale, an old box camera, a string of Christmas tree lights, a medicine dropper, some marbles, some steel ball bearings, a metal measuring cup, a four-inch clamp, some electric sockets and plugs, some glass rods and some wool, some silk and a piece of fur, a cigarette lighter that didn't work, a small mirror, a "burning glass," and a faucet. Through the first week he had not said anything about his collection, though he had added to it while the children were in the room. Five or six of the children had looked into the box and handled some of the items while at the reading table, but had shown no great interest as yet. Some science kits from the storeroom provided some basic materials that would be of use later.

The bulletin board also was being used. Articles from the newspaper, particularly science columns and feature stories about scientists and science all over the world, were put up whenever he found them. These were read by a number of the children. One article told how new superstitions arise to take the place of the old ones. Some of the superstitions listed were that waving a red flag excites bulls, that all criminals are feeble-minded, that Indians see better than white men, that lines in the hand foretell a person's future, and that you can make a person turn around by staring at his back. The science columns in the *New York Times* provided some good background. A newspaper article discussed accident-prone children. Several articles spoke of hunting accidents and explained how to handle guns safely.

Pictures were used, too. An illustrated story dealing with erosion was placed along the blackboard to the side. Herbert put up pictures of old and new types of airplanes as fast as he found them. A diagram map of the oil wells of the Near East held a lot of science, geography, and current history. As time went on, more and more interest was shown in the exhibits. Mr. Zan asked Miss Tate for a subscription to a daily newspaper. She said she could get the money for it.

As the year went along, the children began to bring bulletin-board items that were indicative of their own personal interests. Ruby, Joan, and Lars brought in much material about painting, drawing, and sketching, while Tommy, Jimmy, Marvin, Mary, and Lucille concentrated on music of various kinds. Jimmy was also interested in science as was John, Lawrence, William, and Ella. These activities developed as the year went along and did not spring up all at once.

A SMALL BUT SIGNIFICANT STUDY BOSS UP

One of the first bulletin-board items that aroused sustained attention was a feature story about two people who make a business of extracting snake venom for sale to experimental laboratories. The headline had said,

"Snake Venom May Be Polio Remedy!" The children were interested in polio (they learned to spell *poliomyelitis* though it was not in the article). The article told how the owner of the "serpentorium" developed immunity to snake bites through injecting venom into his body. It also told how he financed his work in part by charging admission to see his snakes. The story said, "No announcements have been made, but reports of astonishing results have been drifting out of the laboratory" of the university that purchased the venom.

Some of the children were interested in snakes and lizards, and had handled and observed garter snakes. Many had learned much about reptiles from various television shows and from books. The article was made to order for discussion. Did the data prove that the man's self-injections made him immune? Did it really indicate that venom might soon be a cure for polio? Did it give a good example of scientific method? Did it play up the idea of "easy" discovery and forget the hard systematic laboratory work? William offered to ask some of these questions of his father who was a physician. Later, after William reported his conversation with his father, Dr. Lervine accepted the invitation to talk to the class on the scientific method in medicine. Dr. Lervine had not been favorably impressed by the article, nor had Mr. Zan. They both wished to see it dealt with critically.

"William told me to study up on it before I came," Dr. Lervine told Mr. Zan later. "He said the kids were reading about it and knew a lot about it. He was right, too."

THE PLAYGROUND AND RECREATION STUDY EXPANDS

During the first part of the week, the map committee was able to finish its map of the East Side. It had been made from a city map and had been blown up in size to twice the scale of the original. In their discussion of the parks, the children and Mr. Zan asked many questions that no one could answer: How many acres were in the park? How did the city get parks? How many people visited the parks? Who ran the concessions in the park? How much money did it cost to run the parks? Who hired the park policemen (the children knew their uniforms and cars were different from those of the regular policemen)? How much vandalism was there in the parks and what was the cost of vandalism to the city? How did one get to schedule games in the parks?

It was decided that a letter should be written to the Park Department asking that an appointment be made for a small committee to come down and get any printed material that might tell about the parks. Letters had been written on similar occasions in the earlier grades, and some of the

children showed good understanding of what should go into them. As Herbert reviewed letter writing with them, he was pleased at how much many of them knew, though, as it always is with each subject, there were some who made no contributions and showed no interest. He tried to remember those who did not contribute. All people should know how to write letters. It would be necessary later to get them into activities in which they were interested and in which it would be profitable to use the mail for communication. Three children were selected to go to the City Hall for the interview, and they were delegated to write their own letter. The letter was prepared and mailed on Tuesday. The following Monday an answer came, setting the appointment date for Thursday at 9:30 A.M. That would be the third week of school.

Herbert regretted a bit that he had not gone down for the material himself without an appointment, since he feared the long wait would tend to slow up the development of the activity. He put the problem up to the children after the letter was mailed.

"Is there anything we can do to learn more about our problem while we wait for an answer?"

"We could study about the clubs we belong to, and what they do to furnish recreation," John said.

"We could study about other things we do, too. I sing in the choir at our church, and we practice Thursday nights and Saturdays," said Eunice.

"We could find out about the camps we go to in the summer," Albert suggested.

"There are free camps for poor kids," said John. "My father belongs to the Kiwanis Club. They have a camp for kids who can't afford to pay. He helps them get it started every summer. I've been out there and, boy, they've got a lot of stuff for kids to play with."

The room was divided into five committees for this study. There was a scout committee for boys, another for girls. There was a church activity committee, a committee on activities sponsored by men's service clubs, and one on junior lodge organizations. Members of each one were to find out all they could about the activities sponsored for boys and girls from 11 to 13 years of age. They were to inquire at home, bring manuals, use the telephone, write letters, or invite speakers or visitors. A new committee was added before long. The Community Chest drive was announced and a committee was set up to see what that organization did for recreation.

The service club committee was the first to invite a speaker. On Friday at 2:45, Mr. Deppelman, John's father, came to tell them about the Kiwanis Camp and any other camps he knew about.

Before he arrived, the question arose about how the children would entertain him. It was decided that one of the children should introduce

him. Ruby was chosen as chairman because she lived right across the street from Mr. Deppelman and knew him well. The children thought Ruby should tell Mr. Deppelman what they were studying and why. Then she would tell the children who he was.

"Generally," Mr. Zan said, "a chairman greets a speaker and talks privately with him for a minute, telling him what the group expects and asking him how he wishes to be introduced."

THE CHILDREN ASSESS THE CURRICULUM

There was quite a bit of uncertainty when the children began to outline what Ruby should say to Mr. Deppelman. They didn't seem able, at first, to express clearly their reasons for studying recreation.

"It's part of our study," Wendla said.

"We're supposed to know about it," said William.

"It's something to do when we're not studying our assignments," said Orville, who wasn't interested in book assignments.

"It's more fun to do than old book assignments," said Frank, who was Orville's chum.

"Our recreation study is about us. It's about things that give growing children exercise and recreation, so we don't have to play in the streets, and get into trouble," said Lester, who had said he wanted to be a lawyer.

Guided by questions from Mr. Zan, they developed a statement of reasons for studying recreation, reviewing at the same time some of the interesting and valuable things they had already learned. Mr. Zan had learned in educational psychology, and had noticed many times in his work, that people learn most efficiently when they know what they are learning and why. As he taught, he frequently asked, "Why do you suppose we are studying this?" or "Why did the author of the book put in a chapter like this for people of your age and grade?" Each time he started with a new group, he found the children prone to answer that they needed to know about China or India, for instance, in order to be educated, in order to know about all the world, in order to pass the tests, or to get into high school or college. Seldom were they able at first to see how such learning might directly affect their living or the living of people in a world devoted to the advancement of human welfare in either its broad or its specific instances. He knew, of course, that children could become interested and acquire much valuable information without a mature assessment of all its implications, but he knew that the best motivation for learning involved some conception of the real function or use of the information.

Mr. Zan tried to assist his pupils in understanding the importance of learning to read, write, spell, and use arithmetic, of learning good indi-

vidual work habits, of learning to attack problems in an orderly and systematic fashion, of learning good attitudes and appreciations, and of learning the skills necessary to work together democratically. In order to further this objective, he held frequent informal reviews, sometimes briefly at the end of a period or sometimes at the end of a project or part of a project, in which the pupils tried to put into words the things they had learned. When they knew and could state what they were learning, their enthusiasm was keener and their progress was accelerated. In such reviews he felt rewarded by answers such as the following:

"We learned that it costs more money to provide parks and playgrounds in the city than in the small towns."

"Yes, but we need them more in the city."

"Because in the city, there are not so many things to do to keep busy as on a farm, for instance."

"We learned the meaning of lots of new words such as 'delinquency area' and 'recidivism'. We studied the spelling of the words we didn't know so we could write up our findings."

"We found out how to use fractions in order to draw our maps to scale and we had to learn about ratio."

"We learned how to interview and introduce a guest speaker."

FIRST VISITING EXPERT

After the noon recess on the day Mr. Deppelman was to come at 2:30, Mr. Zan called him on the phone. (They had talked before and were acquainted.)

"I am going to leave the room as you arrive," Mr. Zan told him. "I want the class to get you started without my help. They still tend to depend upon my guidance in too many small ways. I wish you would act as you would with any group of adults. Let them carry on as best they can."

When Mr. Deppelman appeared at the door, he turned to Ruby and said, "Mr. Deppelman is here, Ruby. You know him, of course. Will you take charge, see that our project is explained to him, and introduce him. I'll be gone for a few minutes, but I'll be back before he finishes."

When Herbert returned fifteen minutes later, Ruby was seated at ease in the front of a classroom of orderly children, all of whom were listening courteously. There was a spirited question and answer period, the children were on their best behavior, and Ruby's job was performed excellently and easily. Mr. Deppelman expressed his enthusiasm for the skills the children were developing. "They didn't do things like this when I was in school. It's bound to develop good citizens. Could you come sometime and talk about this type of work at one of our noon luncheons?"

"Perhaps it would be much better to have a group come from the class to tell the conclusions of their study of recreation in Amber City."

The invitation came in due time and was accepted for a suitable future date.

VISITS TO THE PARK

At the interview with the Park Department officials on Thursday of the third week, a great deal of material was collected. In addition to a history of the parks, telling their size and how they were secured and developed, there were bulletins of activities carried on in the parks, schedules of games and concerts during the past summer, statistics on attendance in the parks, and budgets that included the cost of vandalism. The children got a copy of the City Charter, setting forth the organization and function of the Department and authorizing a definite tax levy with a millage limitation. There was a description of the plants in the greenhouse and another on the animals in the zoo. There was a separate bulletin on the golf courses in each of the parks. In addition to such information, they were given copies of recreation and sports magazines for their reading table. Before the committee left, it made a date for the whole class to meet with Mr. Neale, the Superintendent of Parks, at Indian Head Park on the following Tuesday, weather permitting (and it did).

The meeting and the tour through the park were the source of much learning. There were the mechanical details of getting permission from the parents, for this was the first field trip by the whole class. Transportation was solved by a call to the bus company, since no school buses were available that day. The bus company ran two buses instead of one on its 9:15 East-Side circuit. There would be ample room on the midday buses for the trip back.

In the park, the children had decided they would not spend time at the zoo. Many of the animals were in their inside cages, as autumn attendance was too low to justify keeping all the exhibits open. Furthermore, all the children had seen the animals more than once.

"We need to study more about the animals in the materials they gave us, and in our library before it would pay us to see them again," Lawrence had said, and the group had approved in its planning meeting.

"We are going there to study, not to have a good time," Ella had added.

Mr. Zan hoped they'd have a good time anyway. Somehow, he disliked the dichotomy and hoped in time he could start to remove it from their thinking. It is the mark of a good teacher, he thought, not to pick up and comment on such remarks right after they are made. This makes the children unwilling to speak freely and frankly. Far better to come back to

inlet pipes. Later, in mathematics and science, the children studied about water meters.

All this information interested some of the boys to the extent that they later interviewed the engineers and park employees who had done the work, got samples of the clay in question and experimented with it in school, studied ground water and made both a model and a diagram of the underlying rock and soil structure of the region, and found out that lakes bedded on pure rock may seep more than those whose beds have a coating of sand or clay, since faults in the rock (even igneous rock) funnel off the moisture, while moisture-bearing rocks absorb water. They found out some of the differences between various kinds of rocks.

ONE GOOD THING LEADS TO ANOTHER

This led to two further studies. One, relatively brief, dealt with oil-bearing rocks and shales. The other, and longer one, dealt with the chain of lakes that provided Amber City with its water supply. Much initial material for the latter study was obtained from the City Water Department, but the study went far beyond that. It dealt, too, with the drought, with the watershed beyond the lakes, and with state forests far up in the watershed. It involved the use of a number of films on water supply including one on sewage disposal.

By this time, the members of one group in the class were becoming expert young hydraulic engineers. They were soon off on the track of sewage disposal. Here again, while one committee studied the mechanics, the chemistry of the subject, other committees studied river beautification, the smothering and killing of fish and other wildlife by untreated sewage including industrial wastes, and the control of disease through proper disposal. By spring, a valuable field trip was made to the sewage disposal plant and the river. A whole day was taken for another trip through the lakes and pumping stations in the water supply basin and to the filtration plants.

UNITS ARE NOT TO ENTERTAIN

These things were taken up as opportunity permitted. Mr. Zan had found early in his experience that activities could range from being very educational to being only superficially entertaining. He had found that to maintain classroom interest with a succession of superficially entertaining projects was a greater strain on a teacher than was the policing and driving that is typical of very "traditional" classrooms.

The development of educationally productive units takes planning—careful planning. Much of this planning must be leisurely and pleasant.

and the pupils gained experience, however, he found his classes planning newer and less cut-and-dried projects. He found it less necessary, too, that he himself be expert in all the areas of learning involved in the projects.

Perhaps the hesitancy of teachers to develop units in areas where they are not expert caused the partial "feminizing" of the elementary schools, and the rebellion of active upper-grade boys. Mr. Zan thought of this early in his career as a teacher when faced with the problem of preparing interesting units. The girls, he found, sometimes had interests that surprised him, and stores of knowledge in areas where he was a rank tyro. Until he learned to work with them in their areas of interest and excellence, he had found it hard to draw them out as he did the boys. He realized the reverse was probably true with women teachers.

UNIT ACTIVITY IS NOT SUPERFICIAL

Mr. Zan did not wish the boys to get too involved in their study of water seepage until the results of the study of the parks and playground were realized, but neither did he wish their interest to flag until he discovered whether or not it was substantial enough to build upon. The day after their field trip, they discussed it in class. The various committees reported what they had learned and what they wished to learn.

The service club and the lodge committees had found that during the past summer 24 picnics had been held in the park by fraternal groups and that all of these had been attended by husbands, wives, and children. They learned that such groups did not always take full advantage of the facilities the parks provided. There were playground supervisors who would organize games, and trained guides who could be engaged to conduct tours through the zoo and the greenhouse, and a bird expert who would take groups to observe birdlife with "three power" sport binoculars which could be rented for this trip. There was a "botany" trail also. They had found out that each spring the Park Department sponsored a series of radio programs on the parks and was hoping to expand into a companion television program.

"They might need some kids—some children to help in that," Ruby said. "That would be fun."

"Yeow! A mob scene. That's for me. Boom! Boom! Marching! Bugles! Raw-tah tah tah—tah tah!" The joke was accepted quietly and pleasantly by the group since it was also accepted by Mr. Zan.

"Let's ask Mr. Neale."

"That's not till spring."

"Oh! Who wants to be on television?"

"I think it would be fun." It was Ruby holding to her original idea.

"I think it would be fun, too."

"It would have to be a program about people in the park."

"Let's ask Mr. Neale."

"Write him a letter."

"He might forget before spring."

"Let's write in the spring, then."

"How will we remember?" asked Mr. Zan. He had the germ of another idea!

"Ruby can remember."

"Yes, Ruby could remember," Mr. Zan said. "But by that time we will probably have a lot to remember. You people are planning an awful lot."

"We could make a list."

And so they set up a calendar of future events and possible events that, as it grew, became a constant source of ideas for possible new activities.

In their review of the field trip, the discussion finally came to the artificial lake.

"There are fish in the lake, but he said it was too dirty for people to swim in."

"Mud bottom, too, and people throw broken glass and cans in it. They have to clean it out all the time. That costs money that they could spend for equipment."

"They aren't game fish—they're bullheads."

"Ah! They have pan fish in it. They're game fish."

"Yeah! But they just bring them in tank trucks and dump them in for the kids to fish. They die pretty soon and they all winterkill. That's what Mr. Neale told us. He said they have a man to pick up the dead fish when they come to the top or drift up on shore."

"They smother in winter under the ice."

"Why don't they smother in big lakes?"

Nobody knew.

"I don't know either," said Mr. Zan. "Who'll volunteer to look it up for us?"

Somebody would (and did).

"My dad said he never knew that lakes leaked."

"My dad told me about a man that lives over in Lichen Hills that made a swimming pool in his back yard. He had a man come with a steam shovel and dig a big hole and they put roofing paper all over the bottom and used tar to stick it together just like a roof. They filled it with water and it didn't leak."

"I read about that in one of my science magazines. You have to use chlorine if very many people use it."

"Couldn't they use clay?"

"It's a special kind of clay."

"Where does the water go when it leaks out of the lake?"

"That's what we have in our notes. It becomes ground water and it forms lakes and springs in low places, and it is pumped up in pumps where people have pumps instead of faucets"

"Let's get some impervious clay and see how it works."

"Let's ask the men who fixed the lake how they did it."

"Let's get some books about it"

After some more discussion, it was decided to write some letters to find out where to get some clay, and to inquire at the reference division of the city library for suggestions about reading about the topic. A group of nine children wished to do special work on that project.

"It will be some time before we can really get going on it," Mr. Zan said. "We'll have to order the clay and get the reference books and read them. Meanwhile, we'll finish our project on the parks and playgrounds."

SOME OUTCOMES OF THE PARKS AND PLAYGROUNDS UNIT

The written reports on recreation contained a great mass of interesting information. The area surrounding the Columbus School had been built up and populated in the years just prior to World War II. It was essentially a new part of town. It had been developed during a period when times were hard and money scarce. The lots on which the homes were built were small. The real estate promoters had not felt it advisable to set aside any large sections of the subdivision for recreational purposes since they did not feel that they could add that much money to the cost of the lots they were selling. The City Council had not foreseen the future development of that section of the city and had not set aside land for recreation. No one had anticipated the great postwar increase in the number of births. These were typical of the problems the students found as they studied the situation.

In the register of deeds office in the County Court House, a well-informed and instructed committee found that at the time home-building in the district was just getting started, there had been much land upon which taxes had not been paid. The City Parks Department could have obtained this land for playgrounds at no cost. This discovery led to some very serious discussions about the responsibility of city officials to remain alert to the needs of their growing communities.

The study of recreation in Amber City spread to the state and another unit was developed in that area, led by a special committee of ten. The State Department of Parks and Conservation had much material available here, as did some of the publishers' state supplements to their elementary social science series. Books and pamphlets dealing with the state were

good beginning sources. Films on forest fires, rivers, soil erosion, wild life propagation, and similar topics were used. Many of the children had visited the state parks. A collection of pictures and post cards from home was made and displayed.

The time came for the visit to the Kiwanis luncheon. A panel of five was selected, each member of which prepared a two-minute presentation, after which the panel answered questions. The men were amazed at the answers.

CROSS SECTION OF A UNIT

Six weeks later the children returned to their experiment with the clay, better able to appraise the problem as a result of the "research" they had conducted since it was first discussed.

"We have to use something porous and then treat it with clay," said one of the boys who had read the pamphlets and advertisements obtained from the engineers.

"Cloth is porous unless it's chemically treated," said Louise, whose father was a dry cleaner and who had stated her ambition to be a stylist and designer of clothes. "Well, I guess it's porous even then, only it resists water."

"Well, we could use some cloth and cover it with clay."

And so they started planning. The boys made some frames, eight inches square, out of a one-by-four inch board. They covered one of these loosely with a light cotton cloth tacked around the edges, one with cheesecloth, and one with canvas. They experimented by putting the covered frames in pans and pouring water over them. Then they experimented with thin layers of clay on each one. After a day, they decided they needed a control for the factor of evaporation, so they covered another board with cloth sealed with an asphalt roofing compound. They finally got around to using beakers to measure their water carefully. They decided they had to make allowance for the amount of water absorbed and held by the fabric. One of the boys who had camping experience remembered that if one rubbed the inside of the top of a tent while it was raining, the tent might leak. They experimented along that line, too, and at Mr. Zan's suggestion, read about surface tension and the action of molecules in either attracting or repelling moisture. They experimented with piercing the canvas with nail holes and seeing how effective the clay was in such cases.

Louise and two other girls were interested in "Cravenetting" fabrics. They obtained some samples from Mr. Kohen, Louise's father, and tested them. He gave them a small bottle of the concentrated paraffin base solution used in making fabrics water resistant. In dry cleaning, this solution was dissolved in the dry cleaning fluid and dried into the fabrics in a centrifuge. The girls wanted to use the solution according to directions,

but Mr. Zan felt it necessary to discourage the use of inflammable materials.

They brought some paraffin from home that their mothers used to seal jelly and tried rubbing it cold on the fabric. They melted some and tried to brush it on the fabric, but that wouldn't work and they discussed why. They discussed, too, the safety precautions they should take before they melted and used the paraffin. They experimented with some fabrics soaked in a light oil. This brought up the question of spontaneous combustion. The oiled rags were kept in jars, and some of the girls read to find out why this procedure should be followed. They developed some fire safety rules regarding paint rags and oily dust mops around the house and communicated these rules and the reason for them to their parents. They observed the difference between the same fabric, treated and untreated. They saw that the water-resistant factors were only effective to a certain point. They washed out some of the cloth with soap and water and saw its resistant quality removed. Mr. Zan demonstrated the various actions of soap, such as its effect in reducing surface tension in water. They obtained some "liquid rubber" and waterproofed one piece of cloth with it. As a result of their reading, the children became interested in fire-resistant fabrics and obtained some waterglass (potassium and sodium silicate) and treated and tested fabrics with it.

Both the boys and the girls learned that imperviousness to water was largely a matter of degree as it applied either to waterpans or fabrics.

One day the spelling and vocabulary list on the blackboard included the following words: porous, centrifuge, paraffin, Cravenetting, impervious, waterpan, aeration, tension, molecules, asphalt, beaker, repellent, resistant, solution, evaporation, absorption, and chemical!

Each day the pupils used their arithmetic books to find such things as how to read the marks on the side of a beaker or how to set up their data in tables. There were many questions involving addition, subtraction, multiplication, and division. These problems involved understanding how the comparisons between different frames could be made, how great the differences were, and so forth.

THE CLASS SCHEDULE GROWS MORE FLEXIBLE

The study of artificial lakes was only a small part of the whole unit on water supply, ground water, water conservation, erosion, and the geology of the region. As the class worked with units, the scope of the units developed and expanded. Mr. Zan found it possible to spend more time on them profitably. He had started the year with a rather formal time schedule, saving one hour a day for conversation and get-acquainted activity. For some time an hour a day proved sufficient to select, plan, and carry through

on the small activity involved in surveying and making a map of the immediate recreation area. One small committee with at first three and later five members had worked on the map. The rest of the class was involved only in the planning and in the conversation that still served the primary purpose, during the early weeks of the school year, of getting acquainted so that teacher and pupils could deal with one another as real persons possessed of strengths and weaknesses, interests and aversions, talents and shortcomings. By slow degrees, Mr. Zan let the students make decisions regarding the projects, such as which children to include in the spot map. Pupil-teacher planning was used in an elementary way in discussions about what the maps showed and how they should be summarized. The whole group discussed the criteria for a good play-ground and community house. Freedom and informality of discussion gave Mr. Zan an opportunity to know the children as real people. The bulletin board and the science "junk" box offered additional opportunities to find out about the children's interests and capabilities.

When the study expanded beyond the local school area, the map committee undertook a wider assignment. When Mr. Deppelman came to school to talk about the summer camps supported by various service clubs, an important school-community contact was made and the pupils began to develop self-confidence in seeking community assistance. In the snake venom episode, there was a chance to bring in another visitor, an M.D., and to help lay the basis for future pupil-teacher-parent planning.

Community recreation was studied by five committees (soon changed to six) with every child being on one committee or another. The map committee was now disbanded, though it could be reactivated at any time. The maps were still on display. As this work went forward, Herbert tried to have the children realize why they studied certain things and what they really learned. As this developed, an improvement in classroom morale became obvious. The pupils made rules for themselves as a group before they went to the park. These were revised for each trip in terms of the contingencies of time, place, and past experience.

The unit on city recreation was followed by a similar unit, statewide. Then came the inception of the committee on lakes, ground water, and geology, followed and in part paralleled by units on oil wells and oil deposits, and on the water supply of Amber City. As these committees ended their units in various ways, the children, organized in other committees, studied sewage disposal and the related problems of river beautification, river pollution, industrial sewage, and disease control through sewage disposal.

By this time, the unit activities occupied the full afternoons. The mornings were spent on the formal subjects such as arithmetic, reading, geog-

raphy, spelling, and hygiene. Much of what transpired in the morning was an outgrowth of the afternoon's work, but much of the morning work could not be related to the units in progress and Herbert made no farfetched effort to do so when it would have been artificial and unnatural to try.

ATTENTION TO INDIVIDUAL DIFFERENCES

Mr. Zan made little attempt to do ability-grouping in the activity units. He did that more frequently in the more formal part of the program when, for example, children poor in mathematics studied the things they were able to learn, while the better mathematicians went far beyond the typical sixth-grade textbook. In the activity units, there was plenty of constructive work for children at all levels working side by side on the same general project. In order to realize on this opportunity, it was necessary, Herbert had found, to give the children the freedom and then the necessary assistance in learning to plan the details of their work for themselves. No single teacher could possibly get around to directing the activities of all the children as individuals, and it would not be desirable if he could. Children must learn to be self-reliant, cooperative, and secure in their groups without constant outside domination and direction.

Frank, Orville, and Grant were probably the slowest, academically, in the class. Under the direction of some of the other boys, they made the frames for the experiment with clay and the waterproofing of fabrics.

"We'll have to cut them so they are eight inches square on the outside or they won't fit into the pans," William had told the three boys, "so each piece should be seven and one-eighth inches long."

Jimmy, who was standing by the bench said, "Here, I'll show you. That's the one-eighth mark on the square. Mark it across there right after the seven." A stubby finger marked the spot.

The three workmen took their instructions with no show of resentment. They were interested and contributing members of their group. When the first four pieces were cut, they held them together and measured them before they nailed them. The first nailing split one of the boards and Mr. Zan was consulted. He had to find some brads. This time the boys were more successful. Frank measured, Orville sawed, and Grant nailed. They measured each frame when it was finished and, to make sure, they fitted each in turn into the pans.

Jimmy and William had joined another group that was discussing the planning of the experiment. A committee of girls cut the cloth, allowing extra goods to fold under along the tacking edge. A consultation was held over how deep into the box the fabric should hang.

"It has to hold enough water," Lawrence said. "There has to be some pressure and it has to be enough to measure."

Decisions were reached, trials made, and specifications set up. Again a group of workmen took over, tacking on the fabric. This time there were both boys and girls. The boys did not fold the fabric under on the first one they tacked, but upon criticism from the girls and demonstration that the fabric would tend to pull apart under pressure, they took the fabric off, folded it, and tacked it again.

Later some of the slower children assumed the duty, at proper intervals, of examining the pans, measuring and recording the seepage in graduates, adding carefully measured amounts of water, and duly recording all that they did on charts. The children on the planning committee instructed them in these duties, showing them how to read the measures and where to record it. "Never measure or write it down alone," was one rule. "Have two do it, and each one check so as to be sure it's right."

There were other specific jobs to do that were assigned to or assumed by those able to do them. As examples, the clay was to be mixed and kept moist, trials were necessary until a suitable consistency for the clay was determined, a small wooden paddle was carved to use in applying the clay, cold paraffin was to be rubbed by hand on the surface of fabrics, fabrics were to be washed in soap and water and dried, paraffin solutions were to be used in Cravenetting, and waterglass was to be used in fireproofing.

In getting these and countless other things done, Mr. Zan did not strive for an outwardly orderly and quiet room. Instead, he encouraged the children to plan and work together. As he got to know the children better, he found this easier to do. When he saw some of the superior students doing work that required little but manual dexterity, he might say, "Perhaps you can find someone to do this, while you go to the library. . . ." If he found some children unable to agree on the necessary consistency of the clay, he might say, "Why don't you ask some of the others to help you decide—some who have done more reading and who know how they plan to use it?" Sometimes his guidance was more direct, but he was conscious of the limitations of such suggestions in building initiative and enterprise. "There are some better ones over there. Look at them and see if you can get yours more like them." "Be careful. Never leave a saw so that it may fall or be knocked against another child. Think, each time you use it or put it down, so that you don't injure anyone."

• Discussion Questions

1. Marion Johnson began with her class in a socialized manner and worked in the direction of a schedule of planned activities. Herbert Zan began with a formal subject schedule and worked in the direction of experience units and activities. Discuss the differences in the two approaches. Which approach would you prefer to use?

2. If you elect Mr. Zan's approach, is it because you fear to try the other? What do you fear, the criticism of fellow teachers, of principal, or of community?
3. Are you afraid of lack of discipline? Do you fear that you may not be able to dominate the situation? If so, is such a fear based on your lack of faith in your professional training, in the skill to do the job in the new way? Is it based on lack of faith in your own personality, sensitivity to other personalities, empathy? Or is it based on your belief, or in an unwillingness to discard your belief, in the educational effectiveness of autocratic procedures?
4. Remembering how Miss Johnson worked with John Littlejohn, how do you think Mr. Zan should begin with his "home-school" boy? What of his first days in the room? How make him feel at home? How find a place in the "group" for him? How "evaluate" him, to find out where to begin? Take an imaginary boy, or a real boy from your own experience, and trace an imaginary story of what might happen. Can Mr. Zan expect everything to go "smoothly" with this boy?
5. Assume that Mr. Zan's father was an immigrant from central Europe who came to America as a young married man, became a cobbler, and earned a modest living repairing boots and shoes in a small town. Contrast Herbert's background with Marion's. What insights might he have to develop? Would his attitudes toward those struggling with less success than his father and himself necessarily be more wholesome than hers?
6. What items can you think of that might be added to Mr. Zan's science junk box? Discuss the use of such resources. What items might the pupils bring? What was his purpose in building the collection without discussing it? Was this good or bad technique?
7. Evaluate Herbert's use of the parent as a visitor upon the occasion when he left the pupils alone to greet the visitor. Was this overly artificial?
8. Describe some places where you think Mr. Zan carried over or should have carried over the project work into some real honest-to-goodness drill on facts and skills.
9. Discuss the things in Mr. Zan's beginning work that show a definite plan on his part that the children move in the direction of certain important learnings. Then point out instances, within that plan, where a happy circumstance or chance remark led to interesting and new activities contributory to that over-all plan.

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Today, preparation for teaching is closely identified with classroom practice. Teachers are observed in action as a basis for discussion of improved teaching techniques. The observations and discussions are mutually helpful. Increasingly, teachers welcome a broadly cooperative approach to their instructional problems.

Three years ago, when I accepted the position as supervisor in Hampton Rapids, I had taught only seven years, two years in a rural school and five years in the middle grades in a small community. I had then returned to school for three years and had finished work for my Bachelor's and Master's degrees.

Hampton Rapids is a town of 5,000 people and the school district contains, in addition, three other small communities, 8, 9, and 15 miles from Hampton Rapids. The position I was to fill was a new one; I was to supervise 26 elementary teachers in Hampton Rapids and six in each of the three outlying communities. After my first interview with Superintendent Walker I was very thrilled and would have accepted the position immediately. As it was, I had time to think it over. If it should come through, I thought, it was the opportunity of a lifetime. I hoped it would present a chance to do the kind of permissive supervision that I had studied about. The college placement bureau officials said it was entirely proper to discuss in detail the conditions under which I would accept the position.

Superintendent Walker invited me to look over the situation at Hampton Rapids, an attractive community with two elementary schools, one quite old and one fairly new. Each of these schools had a principal, while the three schools in the small neighboring communities had teaching principals. I saw the small but attractive office that might be mine some day and was told that the supervisor would have an office secretary. There was a conference room adjacent to my office that I could share with the rest of the staff.

I discussed with Superintendent Walker the working conditions that I desired. First, I wanted to concentrate my efforts on the improvement of instruction. Second, in the interest of better rapport, I wished to have nothing to do with the rating of teachers for purposes of determining whether they should be promoted to administrative or other positions. Third, I wished to find out from Mr. Walker if there were definite budgetary allocations for the pur-

SUPERVISOR



MAXINE SCHMIDT—

I wondered if perhaps I should not have gone back to teach for a year or two myself before I allowed myself to be set up as a supervisor. By the time I arrived home that evening I was not sure whether I was to be congratulated or commiserated.

A SECOND GRADE TO REMEMBER

When I arrived on the job in the fall, I decided to spend the first month in getting acquainted with as many teachers as possible. I told them at an opening teachers' meeting that I would try to get around to all of them as soon as possible. I explained a bit about my philosophy of working with them, but I knew that little I would say would have much effect. I knew that I would have to wait until they got acquainted with me before they would understand what I meant.

I wanted first of all to see if there were teachers in the district who knew how to do, and were doing, the things that I had only learned about theoretically. *I can still remember the thrill I had when I went into Miss Wolitarsky's second grade on Wednesday of the second week.* I arrived shortly after ten o'clock and I stayed all day. I had a feeling when I had been in the room a short time that she knew what she was about. The first thing I can remember now occurred when the pupils found that the gymnasium would not be available to them for their recreation period. It was raining outside and play facilities in that old building were at a minimum. The children talked over the problem and decided upon a game—a simple game for second-graders. A child ran about the room, tagged someone who was sitting down, and then ran about through the aisles until he was either caught or succeeded in getting back to the seat that the other child had left. Several children who were caught took seats in the front of the room. After a while, one little boy was tagged, but he denied it and returned to his seat. The child who had tagged him looked protestingly at Miss Wolitarsky but she did not seem concerned. Two or three children seated near the little boy also protested, both in the direction of Miss Wolitarsky and to the little boy himself, but he sat stubbornly in his seat. After a moment or two, the child who had tagged him went on playing the game with the others and the little boy sat on. As I watched, I could see that the children were leaving him out of the game. He looked around and the only eyes he met were disapproving ones. After a little while he got up, moved quietly and almost surreptitiously up to the front of the room and took a place with the other children who had been tagged. Arriving there, he talked to the others, but it was some few minutes before they accepted him into the group again.

As I sat there watching, I saw what Miss Wolitarsky had done and I thought back to what I would have done when I was teaching. I knew I

chase of professional materials that might be useful in an in-service training program and for the conducting of workshops and study groups involving the employment occasionally of outside experts on problems that the teachers might wish to study. Fourth, I wanted to discuss the possibility of having a budgetary fund which could be used for the employment of substitute teachers while regular teachers visited other teachers in the school system or perhaps farther away. I wished also that we might soon have a budget for carrying on workshops. Fifth, I wanted permission to work with community groups, parents, businessmen, laboring men, and citizens of every description who might become interested in planning with teachers and students for the improvement of classroom instruction. Finally, I wanted to be free to work with the principals in the various schools in developing an acceptable method of working together in the improvement of instruction.

I agreed with Superintendent Walker that, in any specific matter, his judgment would be final and I assured him that I would welcome all the help he could give me. I told him, however, that I would dislike having him evaluate my work at the end of one year, since I felt that it would take longer than that before the things I wished to do would produce tangible results. (Mr. Walker has told me since that it was my presentation of the conditions under which I wished to work that really settled in his mind the conviction that he wished to employ me.) The meeting with the principals was easily arranged and they readily agreed with me on a program under which we would work together. After I met briefly with the Board of Education and discussed my hopes, the Superintendent recommended my appointment and I left with a signed contract.

As I drove back to the University, I couldn't resist patting myself on the back. I could see my name, "Maxine Schmidt," on that office door! Then, after a bit, I began thinking about the responsibility that was to be mine. After all, I had never thought of myself as a model teacher. Much of my teaching had been very much the same as that of the teachers who had taught me when I was in school. I don't think I was a poor teacher, but I am afraid that I had been a rather authoritarian teacher though in a pleasant sort of way. I had made the decisions in my classroom, handed out the assignments, and decided upon the projects and the problems to study. In seven years, I had developed some pretty good techniques for managing my classroom and I learned how to maintain discipline and how to be pleasant without losing control of my class.

Now I was faced with a real problem. As I had studied at the University, I saw that the way I had been teaching was not as good as I thought it was when I was doing it. I decided that there were better ways to teach. As a teacher, I had not used many of the methods in which I now believed. When I began to think of what I was setting out to do in Hampton Rapids,

I asked her what she would do as the list became longer. I asked how long they would leave the list on the board and what they would do with it afterwards. "I'm not sure," she answered. "Perhaps the children will decide that some of them can copy the rules into a little book of rules, or perhaps each child will wish to have a book of rules. It might be that we could use it in a second-grade newspaper. I will be concerned that we do something with it to help the children understand the meaning of the rules. The main thing is to get them to set up rules as a group. So far, each of these rules has only been suggested by one child. Perhaps the time will come when we can set up some rules by group action. It's hard to tell now just what will come of it."

MEET SOME OTHER TEACHERS

Not all the teachers were as discerning as Miss Wolitarsky. There was Miss Smith, a sincere, hardworking teacher whose fourth-grade room was orderly at all times. The first day I visited, she was having a spelling lesson. She dictated 15 words and then had the children sit quietly at their seats while she passed up and down the aisles and marked each child's paper. Some were all correct, but some of them had one or two words wrong. When she found one or two words misspelled, she chided a bit. She succeeded in dictating the 15 words and getting around the room in 25 minutes. She completely wasted 25 minutes of time for the ten children who had the words all right. Except for getting the marks, which she later wrote into her book, she had not succeeded in achieving anything that could not have been achieved by having the children check their own words and study those they did not know. The words had been taken from a spelling book and were not immediately related to any current interest or activity on the part of the children.

There was Miss Gabriel who arranged her class according to the marks on arithmetic tests each six weeks. The child with the highest mark got the seat in the inner row next to the door, and the child with the poorest mark got the seat in the last row next to the windows. In between, all the children were arranged according to their arithmetic scores. There was a new arrangement after six weeks. Miss Gabriel continued this practice throughout the year. It was interesting to note that Mike Martin always sat in the last seat in the last row. He was the room dumbbell. It was interesting to note, too, that most of the discipline problems in Miss Gabriel's room were in the row along the windows. Most of the children admired Miss Gabriel because she had, indeed, a great fund of knowledge and told the children many things that stimulated them and interested them, but her room was seldom calm and placid. She was the boss in her room. The children knew that she got angry and they talked about how "mad" she got. She sent

would have stepped in pleasantly and made a ruling one way or other. I would have said, "Oh! I think you were caught. You'd better sit up in front with the other children," and I would have smiled and patted him on the head and he would have gone up in front perfectly contented, and the game would have gone on. I might have ruled the other way and said, "Well, it was pretty close. I'm not sure whether you were caught or not. What do you say, class, if we let him take his seat and not be caught?" And I would have smiled again and the class would have smiled with me and all would have been forgotten. But Miss Wolitarsky was wise enough to build a group control so that in a week's time she could withhold herself while the group enforced its own standard. Later, I complimented Miss Wolitarsky on what I had seen, and I told her that I was afraid if I had been in her place I would have thoughtlessly made the decision myself. I asked her what she had done with the class to prepare them to handle the matter the way they did. She seemed embarrassed at the question. "Children know how to do a lot of things," she said, "if we just give them a chance. It didn't take too much planning. We have talked each day a little about how to play together and how to work together and how to set up rules. While the children made suggestions, I put a list on the board."

Behind her, on the board, was the list. It was headed, "Be Happy at Work and Play." Beneath it were the rules as Miss Wolitarsky had interpreted them while the children made their suggestions. (1) Don't be noisy. (2) Mind the teacher. (3) Pass quietly. (4) Don't talk when you shouldn't. (5) Don't yell. (6) Be polite. (7) Work hard. (8) Be neat. (9) Don't fight. (10) Don't tell lies. (11) Don't play with naughty children. (12) Don't play with children who don't play nice. (13) Don't laugh at naughty children. (14) Don't be a tattletale. (15) Make ours the best room. (16) Play nice. (17) Do what the rules say. (18) Don't sass each other. (19) Don't hit each other. (20) Don't say bad words. (21) Be good.

That was the list. As far as possible, Miss Wolitarsky had used the words the children had used. You could see that she must have simplified some of it, and that she had made remarks and guided the discussion. The first rules seemed to follow the sort of thing that children had heard teachers and parents say over and over again. Almost all the rules were prohibitions rather than statements of positive behavior. Some place along in the list Miss Wolitarsky had suggested that they think about things that they might do when some children did not live up to the rules. A bit later she asked them what they would do as a group to bring about a room where there would be happy children at work and at play. One rule had suggested others to the children. Miss Wolitarsky explained that the list was incomplete, that they used the list as the basis for discussions and that they intended to add to it from time to time.

superior to much that one would see in some schools where the subject matter was less real to the children, but I regretted very much that she did not see the opportunity she was missing to train the children in working together, in self-reliance, in planning, in problem-solving, and in writing and reading for a purpose.

She always followed each unit and its culminating activity with a long period of formalized drill and fact-learning from the textbooks. As she put it, they had had their unit—now it was time for the children to “catch up.”

Miss Holden's Mexican unit, I found out later, was known throughout the schools and the community. Those who had not seen it for years described it to me in surprisingly accurate detail for it changed little from year to year. She knew which families in town had “Mexicana” that could be borrowed. Her own supply of gourds served over and over again. The children drew many of the same designs year after year. The children enjoyed the exhibits and the pageantry and learned a great deal, but most of them knew the resources of the pageant from previous years in the school, and their enthusiasm was somewhat tempered.

A TEACHER WHO STARTED WITH PUPIL INTERESTS

Miss Wickersham was one of the teachers about whom I was honestly enthusiastic. She had a sixth grade in rural Woodlot. Most of her boys seemed large for this grade and their fifth-grade teacher the year before had been replaced because she could not handle them. Miss Wickersham had begun the work by finding out who the children were, where they lived, and what they were interested in. Five of the boys were interested in hunting. They were studying guns, their bore and gauge, the differences between buckshot and bird shot, the differences in “spread,” and the range of different charges. They were studying the game laws of the state, and were branching out from that into the study of conservation. They had written letters to the Isaac Walton League, the State Department of Conservation, and the Wild Life Service. They were beginning to read about wild life in different places of the world: big game hunting in Alaska and Africa, elephant hunts in India, hunting moose in Canada, and all sorts of game in the Rockies. There was much emphasis on safety.

A group of boys and girls were studying poultry farming, discussing banding, trap nests, housing, breeding, marketing, and the like. From this they were becoming interested in city markets, in transportation, in diet, in climate and weather, and in farm construction.

Another group started out with a study of the local rural electrification project. They were able to get two speakers to visit class from the R.E.A.

warning. In many cases the pupils had been warned, too, by the time I arrived in the class. I found it relatively easy to spot rooms where pupils were supposed to make a "good impression" on the visitor. The over-acting of the conscientious and "good" little citizens was a cue, as was the barrage of quick, appraising glances thrown at me. Most damaging, it seemed to me, however, was the knowing and sphinx-like regard that many of them had for their teacher in this situation. Children know how many times their parents and they, themselves, feel it necessary to put on a good front. Unless teacher has their approval and unless they have developed common objectives and sympathies, the teacher loses caste when he demands their cooperation in "saving face." When the teacher says, "We want them to know at the Superintendent's office that our room is the best one," the children know perfectly well what the teacher means. Sometimes the teacher felt that the preliminary warnings were not sufficient and so he subtly repeated them when I was introduced by telling the pupils pointedly who I was and where I was from. Seldom was I introduced as a friend or a helper.

I hoped that the time would come (and it did) when I could enter a room without any fanfare at all. Children need feel no strangeness when adults enter a room. As schools expand into the community, the number of visitors increases so greatly that constant formality becomes obstructive. It is probably true that visitors are disturbing when most of the visits presage trouble for someone—a principal "on the prowl," an attendance officer, or a probation investigator.

Despite our agreement the previous spring, I found that the principals were also on edge when I made my first visits. I found that I got some insights into the principal's philosophy by noticing the teachers to whose rooms he guided me first, or those of whom the principal felt proud. In general, they were the teachers whose rooms were fairly quiet, neat, orderly, and attractive. It seemed to me they were, in general, the teachers who were most competent and who had the greatest potentialities, but among them, occasionally, there were teachers whose insights into the nature of the learning process, as related to the basic objectives of education, were not clear and whose procedures were not consistent with the social and psychological nature of the learners and with the wide range of individual and trait differences in a classroom.

Discomfiture with supervision is the result of a kind of supervision on the part of all administrators that has been too common in the past 50 years. It was my faith that uneasiness would disappear as teachers gained confidence in their own abilities and were given the chance to work freely and cooperatively in meeting their problems. It would persist as long as they felt they were being rated, weighed, analyzed, and improved. It

They studied electricity, wiring, candle power, various household uses of electricity, and water power. They became interested in conservation, too, from the study of power and rivers. They saw a movie, "The River," and became interested in the T V A. They read some about generating power through the use of atomic energy. They found pamphlets from the private power companies and from R E A. and some of them were able to read them and understand them with help. They, too, wrote to many sources for information about their various interests.

There was a state forest near Woodlot and some of the children were interested in that. In all the projects, Miss Wickersham found opportunity to have them study and apply mathematics, citizenship, geography, science, history—and to do it in terms of current community interests. There were many occasions when farmers, foresters, hunters, the proprietor of the local sporting goods store, a salesman for an appliance company, and an old-timer known as a hunter and a trapper visited and addressed the pupils. "Every gun is loaded, but it is always the 'unloaded' gun that accidentally kills people. Never point a gun at another even in fun, or even if it's a play gun made out of wood. Train yourself until it's second nature to circle people with your gun." The children were absorbing all these safety facts about firearms.

When I complimented Miss Wickersham on her knowledge of rural affairs, she said, "Why I never knew a pullet from a hen until I started this year's work. I had never shot a gun in my life and didn't know the difference between a rifle and a shotgun. I do not find it necessary to know more than the children about a new project. Some of my children always know more about some things than I do. I went out with the boys and Mr. Pogue last Saturday and I shot a twenty-two for the first time. The big boys were so proud to show me how to shoot and how to hit the target every time. I regard myself as the adult in the classroom, the one to help them find out more about what they already know and want to know, to direct their interests and to help them with the mathematics, history, social science, and communication skills they need and that I know."

BARRIERS TO SUPERVISION

It was difficult at first to get a real insight into the problems for I was constantly faced with an artificial situation. If I visited a school, it was only a minute or two until all teachers in the building had been "warned" of my presence. Many of the teachers quietly "shifted gears" into some activity that they felt would be pleasant to me. Others continued what they were doing with a tense and unconsciously antagonistic attitude as if to imply that I could find fault if I wished. I knew that many teachers "resent" unexpected visits by supervisors. They feel that they are entitled to a

in the front corner. "You see that girl, second one in the second row. She's the one I was telling you about in the office—the one who stole the money at Larson's store last week."

The little girl had glanced at us as we entered. Her face had been clear and happy. She did not hear what Mrs. Greatheart said, but I knew as I glanced at her and caught her eye and saw her lower her eyes to her desk that she knew what Mrs. Greatheart was saying to me, and she knew that I knew about her theft.

I remembered the time in the hospital when my surgeon came to the door with a staff physician. He passed the time of day pleasantly with me and with my two roommates, but as he turned to leave I heard him say to his companion, "That's the case I was telling you about." Had he been talking about me or was it one of my roommates? Was there something wrong that he had held back? Why should he be discussing me with the staff physician if everything was as good as I had been led to believe? I can still remember how I worried about that remark. I wondered, too, how much worrying the little girl would do—the little girl who had taken some money—the little girl who probably needed more than anything else to feel that she was not set apart from other children, that she was not the object of unfavorable attention.

Later, as we walked down the hall, Mrs. Greatheart met a little boy on his way to the third grade from the lavatory. "This is Albert Smith," she told me. "He is a new boy in Woodlot. He is learning to get along with the strange children now. At first he had a lot of trouble. Have you had a fight today, Albert?"

He hadn't.

"The children fight with new boys when they come here. After a while they'll get to know you and they'll stop. Run along now."

Mrs. Greatheart knew and had great sympathy for all the children. She knew a great deal about what went on in her classrooms, on the playground, and on the way to and from school. In the fourth-grade room, she fixed her attention on a boy in the first row. "Do you see that one," she said to me in a confidential whisper. "He's the one who carried the main part at our P.T.A. last week. He's a good one, he is. He can sing and recite, and he's a regular mimic. We certainly are proud of him." The boy knew that we were discussing him. He probably knew that he was being discussed favorably, but he, too, grew uneasy and restless. I felt that it was no time either to suggest to Mrs. Greatheart that her remarks about children were disturbing to them and to the friendly school atmosphere she really worked so hard to achieve. These were things for me to remember and to try to bring out in such a way that teachers, principals, and others might come to see for themselves the factors involved. This

slight impatience. They seemed to know that the wrappers would arrive in good time, and that differences of opinion were things that happened naturally.

"Here is some paper for the sale signs," Miss Wolitarsky said. "George brought it from the Jefferson Store." She had a small roll of white wrapping paper. Another group began to detach itself and arrange the seats. One or two helped Miss Wolitarsky get crayons, pencils, and rulers.

At this point the other committees began to form without any cues from the teacher. When all were in groups, I could see that a great deal of flexibility existed. Some children left their groups to wander about and see what others were doing. In many cases, busy little eyes assessed every detail, and an occasional question was asked or suggestion given. Not all the remarks were either quietly given or graciously received, but it was plain that there was much goal-directed activity, much persistence, and much purposeful learning. Sometimes one committee member noticed the absence of another and set forth to bring him back.

One group worked on price tags—its members had scissors, thumb tacks, and tack hammers, as well as white tag board from which they cut out price tags to place on the edges of the shelves. One group was trying to make a grocery push cart, using a paper carton and four roller skates at the corners. There was much experimental trial-and-error activity and some serious discussion. This group was making use of the vise, tools, and work table at the rear of the room to cut blocks of wood to place in the roller skates and strips to make handles. They also used a ruler to measure lengths on a number of occasions.

One group was taking an inventory, or rather adding to it, counting the new accessions and correcting and amending yesterday's list. One group had taken form and left the room, to return in ten minutes with the building engineer. The committee was pointing out to him some chalk marks on the floor and some wall dimensions. Miss Wolitarsky did not assist in this discussion. When the engineer made some suggestions, the children listened, but were not entirely satisfied.

"No," one little girl said, "we must have a wall here because we must have a window to have light." The engineer's argument that no wall at all on that side would give even more light was not at all satisfactory.

"If a store hasn't got a wall, how could you lock it up?"

That was the carpenter crew and they would need to do some of the large dimension work in the janitor's workroom.

As the work began, I saw that the candy committee was using clay to model candy bars to fit into the candy wrappers the children had saved. These were sometimes wrapped and sealed with tape. The construction of a fairly good "life-saver" roll by one of the girls was hailed with ap-

was probably the only criticism I had for Mrs. Greatheart, and it was fortunate that I bided my time. It was a fault that grew from her tremendous interest in children and her wish to be of assistance to them.

A SECOND-GRADE UNIT TAKES SHAPE

A month passed before I found another chance to visit Miss Wolitarsky. Her class had progressed a great deal. When I entered the room, just before nine o'clock, I found that some of the children were already busy at their work. Some rolls of tape were on a table at the front of the room and children were bringing in boxes and cans for their store. A number of children had brought corn flakes boxes, oatmeal boxes, and the like. Others had coffee cans, pudding boxes, ice cream cartons, and other items in great variety. The children closed the boxes and sealed the cans with tape. Two children were placing the contributions on shelves made from eight orange crates. As more children arrived, there was much inspection of each other's contributions. As they arrived, Miss Wolitarsky checked their attendance in her book and did other work at her desk. I sat in the rear of the room, except as I walked about observing things on the bulletin boards. The rest of the children came in when the bell rang. Almost all of them, even those who brought nothing, went past the table and shelves to inspect the new additions. A few showed Miss Wolitarsky what they had. She was interested, but not effusive. Her attitude was friendly, but adult. I noticed that a child in each row seemed to be checking row attendance. One by one they went up to Miss Wolitarsky and reported—all but one.

"Have you a report, Adelle?" Miss Wolitarsky asked.

Adelle arose quickly from her knees by the shelves and checked her row. She looked around the room for those not in their seats and found that all were present. She went up to the desk and made her report. Miss Wolitarsky's attitude was that of one adult listening to another.

Miss Wolitarsky then took out some modeling clay, some paper pulp paste, and other materials and placed them on the work table.

"This is for the candy committee," she said.

Five or six children came forward, two of whom went to their store for a box of candy wrappers. There was a difference of opinion and a clash of wills over which one should bring the box to the committee. In the tugging, the box was pulled apart and the wrappers fell to the floor. I saw that Miss Wolitarsky was conscious of this activity but remote from it. The two children exchanged a word or two of recrimination and a light blow was struck before the box was placed on the floor and they began picking up the wrappers. The other children had arranged their desks face to face and were placing the materials on them preparatory to their work. One or two of them watched the progress of their wrappers with only

example of her keen insight. This day was no exception. As the committees broke up, one little boy said to Miss Wolitarsky, "Teddy is taking some of our candy bars. He is going to sell them and fool the kids."

Miss Wolitarsky smiled and said, "That would be a good way to start a story, wouldn't it? Perhaps we can plan a story where a boy would do that. Teddy can help us with the story. If you want, you can make up a story."

The suggestion was well received and a number of hands were raised. "We won't have time to plan it now, but we can talk about it tomorrow. It will be fun to see how the story comes out."

The room became almost quiet then, but the little boy who was chairman was not patient.

"Tommy and Lacey and Mary—be quiet and sit down."

The children looked at him with no dismay or apparent resentment and came to order as quickly and, it seemed to me, more thoughtfully than if an adult had addressed them.

"We are going on our visit to the Bargain Market after dinner. Janet's committee is going to tell us what to do."

Janet took the floor.

"We are going to walk over from here," she said. "We are not going to touch things in the store. We are not going to bump into things." She looked at her notes. "If we do, we are going to pick them up. We are not going to shove. We will make a line outside the store and John will go in and tell Mr. Max that we are ready. John!"

John came forward and began, "I'm going to say, 'Mr. Max, we appreciate (he stumbled over the word and smiled and bobbed his head as he finally got it out) coming to your store. We want to learn about stores because we have to shop and buy things for our parents and we are having a store in our second grade at school.'"

In turn, various children told what they were going to see. Their assignments followed quite closely their committee work. Two boys and one girl (Esther) were going to count the push carts. (It developed later that they were interested in the kind that had seats for infants, and they devised a classroom model in which they seated a doll.) Other assignments were to see how the cash registers worked, visit the stock rooms behind the store, see the refrigeration units, find out how many people come to the store each day, the best time to shop, how often the store had sales, where the items for sale came from, how much money the store took in, how to make change, and how to find things that were not displayed. Tom was to ask about the cash register, since he had a toy cash register at home that he was going to bring when the store was ready for it. All the children were to watch for items they would like to have in their store and for the prices that were charged for them. Janet was to ask for any printed

proval. When it was wrapped, one boy said, "Boy, that would fool me!"

The sale-sign committee was making a bargain announcement. A large mailed sale ad from a supermarket and a full-page newspaper advertisement were serving as sources for ideas. This committee consulted Miss Wolitarsky frequently about unknown words, but she offered little more than what was asked of her. They cut off pieces of wrapping paper experimentally and measured and worked. They checked spelling and lettering against their models and occasionally checked their prices with those the price-tag committee was placing on the shelves. Not all the spelling was correct.

So far in the day, Miss Wolitarsky had not addressed the whole group once. She had initiated the work by starting two committees. Her most important overt contribution was in answering questions. I was deeply pleased and complimented that she had paid so little attention to me. She watched the groups rather closely and listened a good deal, but I noticed that she found time to examine some outlines and make some notes at her desk as the children worked.

At ten o'clock, she selected 12 children from the committees to take places in a reading circle. I was not sure what group it was until I saw that the book they selected from their desks was a primer. In it there was a story about a visit to a toy store, a story about a clothing store, and one about a pet store. The children read the stories quite well and with considerable interest since they discussed it all in terms of their own grocery store. This group was followed by two other groups who had also selected stories dealing with retailing, such as child experiences at a road-side vegetable stand, an ice cream and candy store, and a fruit peddler with his truck. Their stories were from second- and third-grade books.

Two of the groups ended by reading from some of the cartons in the store. A few of the children could read almost all the words on them, while almost all could point to and pronounce the key words on the packages, such as "coffee," "Jello" and "corn flakes."

Before noon, Miss Wolitarsky rang a small bell on her desk, at which signal the children put away their group work and put their desks into rows. Three children approached Miss Wolitarsky immediately after she rang the bell, waiting only long enough to ask others to take care of their work. Miss Wolitarsky talked with them and answered their questions. It turned out that they were the room officers.

**MISS WOLITARSKY SEIZES AN
OPPORTUNITY TO PROMOTE MENTAL
HYGIENE AND MOTIVATE HER CLASS**

As I look back on my visits to Miss Wolitarsky's room, it seems that each time, in addition to its general excellence, I came away with a special

side stands and stations, and to plan the work in cooperation with the hostess so that I worked with rather than against my customers. I had learned to lift the heavy trays with my hand back over my wrist so that my legs and my whole body did the lifting and not my back alone. I had learned to move with and not against my environment.

Miss Wolitarsky did the same thing in her room. Children are reasonable creatures who want to learn. She did not try to force them to do things her way when they would be equally or more effectively done their own way, which was in accord with the basic drives and natural interests that dominated them at the various stages of their development. She did not deal with them as an adult who felt it necessary to dominate them, but as a trained student of child nature and learning who took advantage of all the forces at work within them. Her children, she knew, were active, energetic, intelligent, striving to learn and communicate, observant, primarily self-centered and family-centered, but in process of becoming increasingly competent in ever larger social groups. To impose a traditional subject-matter curriculum on them would require discipline, constant attention, endless policing, and constant drill with one group after another, while the others were occupied with more or less identical preparatory assignments. Instead, she started with the basic nature of the growing child, and sought to develop competence in the skills and factual learnings, while at the same time stressing attitudes, social skills, and competency in meeting and solving new problems. Her attempt was to provide a wide range of educative experiences through a variety of books and periodicals, simple science equipment, tools and work bench, simple musical instruments, and all the other enrichments that can be made available in a second grade. She gave her students opportunities to make individual and group decisions, to communicate and to listen, to struggle to lead, not dominate, to accede, and to follow through on group decisions. She encouraged them to work independently and creatively, rather than in passive imitation, with sounds and colors and shapes, and to become sensitive to the beauty of words, music, form, and color and to enjoy the grace and rhythm of movement.

In all this she was tapping the happy, cooperative side of the children. She was working with the forces that make little boys and girls grow up into fine men and women, that lead to sympathetic, generous, and understanding personalities. Her role was one that brings a daily pleasantness and that has a healthy, friendly, wholesome emotional tone.

A FIRST COOPERATIVE STAFF STUDY EMERGES

The opportunity for the first staff study project came in late October at the State Education Association Convention. We held a Hampton Rapids

materials they could have, such as advertisements, window signs, sale ads, and the like. Erland was to ask for any cardboard display stands that were of no more use and that could be put into their store. (They obtained five display boxes that stood on the floor and were counter high. In some cases these were remodeled, painted, and printed later by the children.)

A safety committee was to study the parking lot at the store, especially where the cars entered and left it. Mr. Max was particularly helpful with that committee.

I found out later that Mr. Max had arranged the visit with great care. He had been a guest at school before my visit when the children were beginning the project and had invited them to come on an acceptable day. He had arranged for a newspaper reporter and had himself employed a photographer so that he could report the project in his company's house organ. He had located some simple printed materials and had obtained some children's books about stores from the publisher who provided him with his juvenile literature. He gave these to the children for the classroom library. He had coached his staff in the store so that each child could have his questions answered by the person who did the job in the store. He also had treats for the children to eat.

MISS WOLITARSKY DIRECTS PUPIL ENERGIES INTO CONSTRUCTIVE CHANNELS

As time went by, it was interesting to watch Miss Wolitarsky's units develop. Because of the youth of the children, there was much more independent work within the groups than one sometimes finds in older grades. They did not plan far in advance of where they were at any particular time, but they had definite goals they wished to achieve. Their interest in one another was not long sustained. They wanted to follow through on their ideas at once, and were consequently impulsive and thoughtless. They were inclined to ignore the rights of others and to lack self-restraint. Sometimes their shyness and their disturbance at an unexpected change in routine showed itself in aggressiveness or stubbornness. Miss Wolitarsky's planning took these factors into account. She let the children know what was expected of them. Their routine emerged naturally from these expectations. This had been seen when the committees formed around the materials she placed out for them.

It always intrigues me to watch Miss Wolitarsky and teachers like her. They are thoughtful and careful, but seldom seem to be subject to the strains and tensions that afflict a Miss Smith, a Miss Gabriel, or even a waitress at Glacier Park. Each day of my first month in the dining room there had left me tired and irritated. Then I had learned to organize my

dynamic psychosocial forces in each class so that they become self-directing.

I was able to find many professional references to new reporting procedures, some of which were available in the professional library in Hampton Rapids, and others that I ordered immediately. I spent part of the day at the University Library in the seminar study rooms where I met two of my former professors who recommended colleagues who might be of assistance as consultants if the teachers decided they wanted them.

At dinner I met Superintendent Walker and told him what had occurred. I was so enthusiastic and thrilled that I had found the chance I had been seeking. I had told him a number of times how I hoped to work things out, and he had been so encouraging. In this instance, he seemed not to see it for the opportunity that it was. I have never told him since how he failed me then. I have learned since that all of us have problems in which we become immersed. Sometimes, when other's problems have been as important as mine, I have not been able to see the implications of theirs or they of mine. I still feel, however, that top administrators in school systems must come to regard the curriculum problems of the schools as deserving of more attention and more encouragement than they generally receive. In the final analysis, what goes on in the school situation under the direction of teachers is the be-all and the end-all of administrative effort, from the legal machinery for taxing and managing to the final penny for cleaning and polishing. In my experience, Superintendent Walker has never failed to support the improvement of educational practice with money and facilities. He is far superior to most superintendents I know, but a new bus, a new device for better classroom lighting, or a district athletic championship brings a gleam to his eye far more quickly than do plans for a successful workshop or a good curriculum unit.

SOME EARLY GENERAL IMPRESSIONS

I would not wish to give the impression that I considered the professional level in Hampton Rapids to be low—in many ways it was superior to that in most communities. The staff morale was good, the teachers were interested in their work, the salaries compared favorably with the best in similar sized communities in the state, and the equipment and supplies available were relatively good. As I visited the schools, I was pleased with what I saw. It was my responsibility, however, to contribute to the improvement of instruction. My first interest was to assess what I found as well as I could. I made notes of what I saw and by slow degrees tried to organize my impressions into broad categories. Some of the headings into which they fell were: (1) need for curriculum planning involving the community; (2) more attention to mental health of pupils; (3) greater use of

breakfast the last morning and the conversation got onto the problem of substituting informal notes and parent-teacher conferences for report cards. A speaker had discussed the problem and four or five of our teachers had attended a follow-up panel.

"Teachers who had tried it said it helped solve many of their problems," said one.

"It brings the home and school closer together," said another.

"I sure hate filling in those report cards every six weeks. They mean so little."

"Sometimes I think they do more harm than good."

"I'd like to write notes and hold conferences if I could find time to do it. As it is, I'm so busy teaching that I don't know how I'd ever get it done. It's not that I don't believe in it. It's just that I can't see how it could be worked out."

"I was talking to a teacher from Oak Heights. She said they do it during school time."

"The notes or the conferences?"

"Both. That's what she said."

"Do they send the children home?"

"She said they didn't need to. The children work while she works or meets the parents."

"Well, I'd like to see them do it. I'll bet they couldn't do it in my room. I'd like to know how they do it. Perhaps they let the children play."

"Teachers could join up and take double groups."

Finally someone said, "Miss Schmidt, what do you think?" I could have hugged her! I wanted to say something, but had resolved to wait until asked. When I became known and accepted, perhaps I would not need to be so careful.

"I don't know much about the details of how they work such plans. I know they seem to work well when they are done carefully. I'll be glad to collect some materials for us to study."

In no time at all it was all decided. I had an assignment and it was about a problem that had sprung from the teachers themselves. It involved much more than the writing of notes and the holding of parent-teacher conferences. It involved planning for desirable ends and for interpreting changes in pupil behavior (learning) in meaningful terms. It involved gaining greater cooperation between school and home, and offered a chance to move in the direction of the community school. It might affect the educational and social tone of some of our classrooms, as teachers might learn to free themselves from the need for constant guiding and dominating and move further in the direction of becoming professional architects of human behavior, of manipulating the latent but potentially

that Mr. Black was alive and would probably recover (which he did, but only after a long convalescence and then not to return to his job). He could not be questioned for some time, but had nothing to offer when he was queried. It was determined that a large bruise on his head was the result of his fall and not of a blow.

While the investigation was in process, the teachers gathered in the lunch room and talked about the terrible thing that had happened. For some time the discussion concerned Mr. Black's illness and the extent of the damage. It then turned to possible culprits.

"I'd just like to know who did it," Miss Swanson (sixth grade) said, and there was righteous anger in her voice.

"I know one or two who might be in it," Miss Antoine (fifth grade) volunteered.

"I can't think it was any of our children," said Miss Jackson (principal). "It looks like the work of older, stronger children."

"I hope," said Miss Jones (second grade), "that we don't find out who did it, particularly if Mr. Black should die."

"You don't! Well I do. They should be taught a lesson!"—Miss Swanson.

"Oh, I suppose you're right. It's just that I am afraid we don't really know how to teach that lesson, and instead we may make a bad situation worse. Just imagine how a group of bad little boys could break into the school. They got started and didn't know where to stop. One threw ink. Another had to top him by upturning a bookcase. They didn't know how to stop. None of them thought that a man might die as a result of their escapade. Imagine how the thought of that evil result might ruin a boy's life."

"Wouldn't it be best to know so we could help the boys to live it down?" asked Miss Jackson.

"Yes, if we really know how to help."

(That problem was later solved as far as we were concerned. The culprits were four older boys from a neighboring town, three of whom had dropped out of school there.)

"I think we should use the incident as the basis for our curriculum work for a while." This was Mrs. Ernst, a very fine third-grade teacher. "Our children will be shocked and bewildered by what has happened. They will want to know all about it. They will hear their parents and friends talking about it. People in the community will wonder if there is something wrong with our schools, when youngsters do things like this. The children's interest and excitement concerning school will be at the highest point ever. The incident represents great opportunity to motivate some real learning."

"How would you go about using it?" I asked.

basic interests and drives of pupils; (4) imposed control used when democratic control would be more effective; (5) too great relative emphasis placed on rote memorization, factual verbal learnings and automatic skills, rather than on democratic attitudes, social skills, and learning through doing; (6) too rigid daily schedules with consequent fragmentation of the learning emphases, (7) regard for discipline as imposed control and deportment rather than as growth in self-control and in group control; (8) evaluation largely in terms of factual learnings; (9) hesitancy to use new techniques and methods; (10) satisfaction with a level of scholarship that was too low for the abilities of many of the children involved.

VANDALISM AT FOREST LAKE

One day in December, when I approached the Forest Lake School, I knew that something was amiss. Though it was only 8:15, a number of children stood excitedly at the door, where a teacher was on guard.

"We've been broken into!" she exclaimed to me as I entered. "Poor Mr. Black, he's collapsed. I'm afraid he's dead."

I rushed in and found a sad state of affairs. Mr. Black, the janitor-engineer, was lying unconscious at the foot of the stairs leading to the second floor. His eyes were closed and his face pale, but I saw that he was breathing regularly. Some of the teachers had already loosened his clothing and covered him with warm blankets. An ambulance had been ordered.

All around was confusion and destruction! The building had been entered during the night and ransacked. The drawers of the teachers' desks had been pulled out and emptied, bottles of ink had been thrown about and smashed, tables overturned, books scattered and torn, and a phonograph broken, a radio smashed, a tape recorder partially destroyed and four rolls of recorded tape unrolled, the office desk forced open and a small sum of money taken, some kindergarten and primary chairs broken, pupils' desks upturned and emptied, bookcases thrown forward on the floor, a world globe crushed, some maps torn from the cases. . . .

Clearly, a number of people had spent a busy hour doing damage. It was surmised that when Mr. Black entered the building he became excited, rushed about, and suffered a heart attack.

The police arrived soon after I did. Superintendent Walker came at about the same time. An ambulance took Mr. Black to the hospital. A hurried conference resulted in sending the children home for the day. The local radio station broadcast the news.

The police asked that nothing be disturbed until they had time to look for clues. They wanted the teachers to remain at school to help identify any objects that might serve as clues. Word from the hospital indicated

that Mr. Black was alive and would probably recover (which he did, but only after a long convalescence and then not to return to his job). He could not be questioned for some time, but had nothing to offer when he was queried. It was determined that a large bruise on his head was the result of his fall and not of a blow.

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"How would you go about using it?" I asked.

"Well, it is hard to say how it could develop," Mrs. Ernst said. "I believe I would like to have them come to school and find the room just the way it is now. I would like to have them make a list of all the damage. I am sure the talk at home will have aroused their interest in the cost of the destruction. Some of them can use a lot of arithmetic in estimating that. They can list what needs to be done to repair the damage. They can use the event in speaking, writing, and in citizenship."

"I wonder what Mr. Walker would think of our ideas," I said, and I went in search of him. When we returned, the fifth-grade teacher, Miss Antoine, was talking.

"The children could write a story of what happened. It would give them an opportunity to practice English. We could dramatize a report of it for radio presentation."

"We could study community recreation to see what the community provides for children," Miss Swanson suggested.

"My children would be interested in the duties of the janitor and the care of the building," Mrs. Ernst said.

Mr. Walker was impressed with all the many suggestions made except the one about having the children find the building in disarray.

"I don't think it would work," he said. "I doubt in any case that we can have school tomorrow. I will have cleaners in to scrub and bleach the ink spots. We will have to assess the damage and report it to the Board of Education. The telephone has been pulled from the wall. The broken glass from the bookcases, doors, and aquariums is dangerous. The parents will want it all cleaned up. The police will not want us to touch anything for at least a few hours yet."

"I really believe," I said, "that Mrs. Ernst has an unusual and a challenging idea. Let's see what we can do with it, even if the children do not come back until everything is cleaned up."

Superintendent Walker agreed. "I believe you can use the incident to motivate the pupils and I will cooperate in every way I can. I believe we can use it, too, to stimulate parent and citizen interest in our school, its problems and procedures."

After he left, there was a spirited discussion. Two of the teachers seemed doubtful, but not unwilling. The others were more interested. Miss Burns expressed the majority opinion when she said, "I believe that we can use it as curriculum motivation."

That night of vandalism resulted in some good projects in the Forest Lake School. Superintendent Walker was pleased and commended the teachers, as did many of the parents. The most dramatic was a radio skit, "Vandalism Doesn't Pay," with sound effects and announcer, recorded on tape and used at the local radio station. Most of the projects were of short

duration, however, and I was disappointed in our lack of ability to motivate and develop them further. I visited on the day that school reopened and for two or three days afterward. Throughout the school, there was an air of hushed suppression among the children, though the culprits had been identified and there was no suspicion on any of our pupils. The teachers worked hard to get school back on an even keel; they discussed the damage with the children; the children wrote letters to Mr. Black and some of them took him flowers; the cost of the damage was computed; mock trials were held; upper-grade children studied the juvenile court laws; lower-grade children discussed the duties of policemen, ambulance drivers, and janitors; a school citizenship pledge was composed in one room.

I never determined that the teachers were disappointed in these outcomes. They probably were not. It seemed to me, however, that except for the radio script, there was a lack of enthusiasm on the part of the pupils in sharp contrast to that in Miss Wolitarsky's store or in Miss Wickersham's projects on hunting, wild life, and rural electrification. I have thought about it frequently and discussed it with others, but I am not sure why this should have been.

1. Did the evil elements in the incident discourage the pupils and dampen their interest?
2. Was the unconscious shock of the teachers the discouraging factor?
3. Did I press too hard to seize a chance to demonstrate a point?
4. Are pupils repelled by incidents that bring forth adult "moralizing" and "lesson drawing"?
5. Would the outcomes have seemed more real if Mrs. Ernst's suggestion had been adopted?
6. Was there a lack of real pupil motivation because the project was not in keeping with basic needs and drives?
7. Was the problem too adult in nature?

THE SECOND GRADE GOES INTO BUSINESS

Colorful signs on stakes announced to passers-by the great news!

GRAND OPENING SECOND GRADE SUPERMARKET November 10, 2 P.M.

Carefully written invitations inviting the parents as special guests to the grand opening had been prepared and delivered. "There will be prizes and free treats. R.S.V.P."

The schoolroom had atmosphere as the visitors arrived. One of two

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doors led from the hall to the cloak hall and from thence into the room. This area represented the rear entrance and back room of the store as well as "backstage" for the demonstration. The "front part" of the store stretched three-fourths of the way across the front of the classroom. The remainder was a small area shut off by a curtain for "out of the store" dramatizations.

The "store" was furnished with homemade shelves made from boxes and crates, display racks (redecorated) obtained from Mr. Max, and with piles of "bargains" built in pyramids on the floor. Boxes and cartons had been cut in various shapes for bins. Over and around everything there were bargain announcements. There were price tags in profusion. Every item had a price written on it. When the audience was seated, the small curtain was pulled.

Seated at a little breakfast table were three children, playing the part of father, mother and son:

Father: Here is some money. Go to the store and get some groceries.

Mother: Thank you. How much money is it?

Father: It is 14 dollars. You should get some change.

Son: Can I go, too, and get some candy?

Mother: We'll see.

Son: I want some picture books, too.

Mother: You have brushed your teeth and eaten your cereal. You can have them.

Father: I must go to work now.

Mother: I will go to the store as soon as it opens.

Curtain

The children read some of their lines from manuscripts on the table. Some parts they remembered ("They read on television," one boy had said. "You can see them.") The parents laughed a good deal as the father counted out the 14 dollars. The children smiled, too, but their smiles showed that they did not see the same humor in the situation that their parents did. The 14 dollars had been arrived at only after much study. Children had talked over the amount at home. They had counted and added at school. The sum as it was finally arrived at was a unanimous opinion. So much consideration had gone into it that in their opinion it had to be the right sum.

The children talked quite slowly and clearly. They had tried out parts of their speeches on a tape machine and had listened and discussed their work with great interest and critical spirit. Miss Wolitarsky had tried to make a second tape of the children discussing their tape. She wanted it for later use in in-service study. In many parts, there were too many voices and too many undistinguishable remarks. One part, however, went like this:

"Miss Wolitarsky says we should say 'May I,' not 'Can I.'"

"I say, 'Can I.'"

"So do I."

"Well," this from the member of the committee that authored that part of the drama, "this is a daddy and a mother, not a school."

The teachers considered this remark to be significant, particularly since it went unchallenged by the other children. What was there in our schools or in our culture that, even at such early ages, there should be a behavioral dichotomy between school world and home world—where never the twain meet?

The curtain opened again. A little girl held a paper clock face while a little boy placed the hands at nine o'clock.

"The store opens at nine o'clock."

He turned the hands to twelve o'clock.

"The clerks go to lunch at twelve o'clock."

With appropriate changes, he continued: "Some other clerks go at 12:30—the store closes at six o'clock."

He worked hard at his job. The little girl watched as best she could as she held the clock. He didn't make a mistake, but it was obvious that he had studied hard to do it.

As he turned the clock back to nine, Esther came and struck a cymbal softly and rhythmically nine times, counting silently but visibly with her lips as she did.

Curtain

Esther had not been able to count beyond five when she entered second grade. Her ability with numbers was low, but was improving as she saw some uses and meaning in them. She had worked with four other children on the time-telling scene. They were proud of it and the other children were too.

The next activity took place in the store. The clerks and a cashier came in. The "mother" came in with her son. She selected a grocery cart (a small doll buggy that had been given a double deck by placing a piece of cardboard on the springs). She had a list to which she referred frequently. The little boy began to look at some Little Wonder Books. Another mother came in with two little girls and a baby (a doll). She selected the homemade cart that ran on roller skates. She strapped the doll into the "baby seat." You could best distinguish the "mothers" from the "children" by the ladies' hats they had brought from home, though there were other bits of adult dress—costume jewelry, sashes, and the like, as well as adult mannerisms—particularly a peculiar swing of the hips. The little girls went to the candy counter.

Each shopper bought many health foods—milk, oatmeal and other cereals, cheese, eggs, meat, fresh fruits and vegetables, some real and some made from paper or clay. As the shelves were emptied, clerks brought in more supplies. Each shopper used a list, had a pencil, and checked prices. The "mothers" were very strict with the children, despite their good behavior. One mother found it necessary to lead her child by the ear when he persisted in not staying near her. This brought gales of laughter from the audience. The store scene was played not for its dramatic effect with a "center stage," but for its realism. The actors each played their roles and spoke their lines with no thought of scene stealing or mugging. At times they dropped out of character temporarily to watch their fellows. There were one or two minor accidents, but they were not at all disturbing because the children played their parts as freely and imperceptibly as small children play house. When early in the act a cart tipped over, the audience giggled and laughed, but the children went on methodically. It did not seem to have occurred to them that a cart should not tip over in any store. They had not planned that it should tip and were definitely "out of character" until it was righted and refilled. As the play continued, the parents laughed less and watched more closely. It seemed that most of them sensed to some extent the imagination and constructiveness that was being developed, as well as the hard basic knowledges and skills that had been learned.

The adding machine-cash register was the wonder of all. A calculator had been borrowed from the office. This machine adds without a tape. A group of seven who were good at arithmetic had worked long on that project. The final result was the placement of Tom's toy cash register beside the calculator to hold the money. At one time they had planned to place Lilly and Bobby out of sight beneath the table to take the lists and add them while Luella, the cashier, pretended to work with the cash register. They would then pass the answers up to her. This had presented too many difficulties when it was tried. Neither Lilly nor Bobby had been able to do the job quickly and reliably enough to satisfy themselves or their committee, though Miss Wolitarsky later professed her humorous regret that the plan was abandoned. "How hard they practiced quick addition," she said. "The members of the committee are now able to add on the fifth-grade level, using decimals to separate dollars from cents. How scornful they were when they found problems in the third-grade book giving pre-inflation prices for lettuce and bread! When I tried to explain that prices had gone up since the book was written, Lilly had said, 'We ought to get some new books.' Tom had said, 'Ma says that's all prices do—go up.'"

The shift to the calculator had been made at Jean's suggestion. Her

mother worked in an office and used an adding machine. Jean had visited there and played with the typewriter and seen the adding machine. The committee had borrowed the machine from the office for the day, but had done most of their practicing in the office. They had learned to use the dollars and cents columns, and had felt impelled to add some "big" numbers by themselves and then on the machine to check its accuracy. When the machine had been demonstrated to the whole class one day, Betty, an average student, had said, "When I get big I'll have one of those and I won't have to add." This had served as the basis for a discussion and the boys had pointed out some practical difficulties. "You have to learn anyway. You can't carry around a big adding machine wherever you go."

Before long, the shopping scene was completed. The shopping carts were filled, the columns totaled, and the change made with money the children had made. Miss Wolitarsky's first participation occurred here. Up to this point she had sat in the audience, but in one instance Luella got stuck making change. Without the slightest sign of embarrassment or self-consciousness, she turned to her teacher and asked, "How do you do it when it ends in 99?" Miss Wolitarsky came forward and showed her, and then sat down again in front. The last customer left the store, and the clerks and cashier went backstage.

There was some applause, but it was cut short by the opening of the curtain.

"We learned many things in our store," Carl said. "We will tell you what we learned." One by one, children who had not yet participated told something they had learned.

"We learned to make signs. We learned to paint them ourselves and to print the words and the prices and all that."

"We learned to run an adding machine and you can multiply with it, too, but we don't know how yet. That comes in high school, Miss Wolitarsky says."

"We learned to tell time and know when the store opens. If you go in the morning, Mr. Max says it's better because a lot of people come afternoons where there's a big crowd."

"We learned to print. We learned to spell. We learned to read what's on the packages. We learned to read many new words."

"We read stories about stores. We read all about stores. We read the ads in the newspaper."

"We visited Mr. Max's store. We learned how to shop. We learned to be polite."

"We studied all about good foods to eat and not all ice cream and candy and cake. You should eat things that make you grow big and strong. You should eat hot cereal, fresh vegetables, and drink milk."

"We learned to make things. At first we didn't know how to make a cart but Mr. Johnson helped us. We made the counters out of boxes and Mr. Johnson helped us with the wall."

"We learned how to add. We learned about sales and prices. We learned how to read prices. You have to save money by low prices."

"We learned about money and how to count money and many of the children learned how to make change."

"We learned how to paint and to draw signs and we decorated our store ourselves. Miss Wolitarsky says we thought of a lot of good ideas."

In the final part of the program, two children held and described the scrap book they had prepared about their store and about stores in general. They read two poems the children had written about visiting stores. When the program was over, the children picked things up and left for home. Most of the parents stayed for tea and cookies with Miss Wolitarsky.

The program itself had been carefully planned. Every effort was made to get parents to attend, particularly the parents of those children that Miss Wolitarsky thought needed the thrill of having their parents see them perform. Each grocer in town had been invited in previously to see the store and most of them had come. Together they had suggested that each one contribute attendance prizes to all parents who would attend. They decided to do this without identifying their firms with the gifts. As a result the children had been able to tell their parents that merchandise worth \$37.83 would be given away as door prizes. There was cocoa, coffee, Spry, Crisco, Swiftning, canned pineapple, peaches, berries, pears, various kinds of soaps, and canned fish and meat. The children had found the prices of each contribution and the best arithmeticians had added them up to arrive at the total value.

SUPERVISOR MEETS PARENTS

I overheard Mrs. Aitkin talking to Miss Wolitarsky at tea. She had been a teacher, too. "When do you find time to teach the children their reading, arithmetic, spelling, and writing? Maybeth certainly has learned to read, and reads more than ever and does wonders in arithmetic, but she never talks about her lessons."

"We study these things all the time," Miss Wolitarsky said. "I have never had a grade that wanted to work harder. We have one arithmetic group with about fifteen members. Then we have three other groups with from five to seven each. One group is developing arithmetic readiness, one is reviewing simple number concepts, and one is working on more advanced work. The children have found that they must try to know a lot about numbers and they study arithmetic as much as a whole hour some days. Much of it has been in relation to our project, but much of it has been drill.

As soon as they see the need for knowing and are mature enough to understand it, they love to drill on it until they master it. Maybeth is in the large group. Her arithmetic is above average, but she is not ready for more advanced work yet. She needs experience with numbers as she goes along. Like most children her age, she needs to regard the things she lives with—her dolls, her books, her spending money—as things that are described by numbers. She needs to find out how larger and larger numbers are used as quantities get larger. She is an intelligent little girl and she will advance in arithmetic very well. Relative to her arithmetic, she is more competent in reading and spelling. She knows the meaning of many words and is thus better able than most to learn to recognize the words in printed sentences. Because she learns easily, she has a feeling of competence and security and happiness in her school work and this helps her to take her part in activities with other children. She gets along well with them. She helps them generously and accepts help gracefully. She loves to compete with the other children and is learning to do her best and to be a good sport whether she wins or loses."

"We certainly appreciate what you are doing for her. Schools have changed a lot, even since I was a teacher." She ended by asking Miss Wolitarsky to come soon for a visit at her home.

Later Miss Wolitarsky said to me, "She is an unusual mother. Ex-teachers are often the hardest ones to talk to, particularly if their children are as bright as Maybeth is."

I noticed another woman who hadn't talked to many of the others. Twice, as she drifted toward the door, Miss Wolitarsky had detained her by asking her to look at something Esther had done. Finally when only three or four were left, Miss Wolitarsky introduced me to her.

"Keep her here if you can," she had said to me.

She joined us a moment later.

"We'll walk out with you." In her casualness, there was no hint of a special message—no feeling of pressing or urgency. As we put on our wraps, we discussed the store.

Then came the question, "How is Esther doing?" Dreadful question! I found out later that Esther had been passed on probation. Esther did not read well at all. On a sociogram no child had chosen her as best friend or the one to sit near. Sometimes she cried without great provocation. The morning of the day the first report cards were to be ready she had vomited and had to go home early. An individual Binet had shown an I.Q. of 85.

"I think she is making very good progress," Miss Wolitarsky said. "She was slow getting started last year, but she is beginning to get the hang of things now. She was a great help in planning our store. She brought many packages and she can tell the difference between the different boxes of

cereal and can point out the names of the contents of the boxes. We cut out the names from the boxes and used them as cards. Even that way she knows many of them. She is beginning to enjoy finding printed words that name things she knows. She is learning to count, too. Best of all, she enjoys being with other children more and more. She can be shoved and shove back without worrying about it as much as she did."

"We try to make her study and learn, but she doesn't bring her books home. We'd make her study at home if she had some books."

"I'd let you know if I thought that was necessary, but Esther does not need homework yet. She is a child who starts her school work slowly. We don't know how fast she may go later, but I feel sure she will do much better than she has so far. I know you and her father are busy, but if you would read stories to her sometimes in the evening, there are some books in our library that I could recommend. It would be nice if we could get Esther to regard books as things that bring pleasure. Somehow, she has not learned to love books. That can be done only if she finds out that they are sources of fun or information. She likes to know. The more fun that she can have reading stories or having them read to her, the better it would be."

"We would read stories to her," the mother said, "but my sister's girl reads to her and she doesn't like that. We tell her she should learn to read like her little cousin does."

"It would be better if adults read to her," Miss Wolitarsky said diplomatically. "She hears many children read at school. If you read to her at home, she may sometimes tell the stories to the other children at school. I want you to tell her tonight that I told you she was doing better all the time. That is true. She is working hard and needs to know that she is getting credit for it."

We walked out of the building and were quiet for a while. Miss Wolitarsky was waiting for a remark and when it came I remembered it from my own experience and knew that Miss Wolitarsky had been waiting for it *and wanted it*. When I had heard it as a teacher, I had sighed and thought, "That's what they always say." I hadn't known how to use it.

"She really is bright enough, you know. She learns the things she wants to learn. Her father was just saying the other day that perhaps we should just *make* her study. She knows lots of things that would surprise you when she wants to."

In this remark there was an implied and very natural criticism of the school that Miss Wolitarsky chose to ignore. She was secure and confident.

"I'll bet that's true," she answered encouragingly. "I have noticed the same thing." Again she waited for the mother to answer.

"The other day, when her father slammed the car door to close it, she

told him that if he opened the car window first, he wouldn't have to slam so hard. He had never heard of it, but he knew it was true. She wouldn't tell where she learned that.

"She knows how to watch her brother, too,—he's four I never worry when she's watching him. She doesn't let him put things in his mouth—he wants to put everything in his mouth—and she's careful closing the car door so she doesn't catch his hand. He minds her, too, and it's funny because she doesn't get mad at him even when he's mean."

"What's her brother's name?" Miss Wolitarsky asked. That was something for the teacher to remember, I knew.

"It's Robert,—and Esther is so careful of needles and pins. She never leaves them where he can get them. When she sews, she won't let him help. She's gotten so she sews at the dining room table—puts a box on one of the chairs to sit on. He can't reach up so easy."

"Does she sew much?"

"She'd do it all the time if I'd let her. When she was little, Grandma Dusek—that's my mother—gave her some cards with yarn to sew through with. The cards had holes. She did it just like the pictures showed her to do. She has been sewing ever since. I never did sew much—my sister was the sewer in our family—but her Grandma shows her how to make stitches and sometimes helps her cut the doll clothes. Her father says it shows what she can do when she wants to."

We came to the parting of the ways. Esther's mother said again that she was glad she came and glad she met me. Though it seemed on the tip of her tongue, she didn't extend an invitation to either of us to visit her home.

"She works part of the time," Miss Wolitarsky explained, "when Grandma Dusek is strong enough to care for the baby. Her husband is caretaker for Tom Adkins who is the largest local stockholder in the mill. I've heard the Adkinses like her very much. She takes marvelous care of their nice things. I wonder if she has so little company at her home because she thinks it shabby by comparison. I did want to meet her. Now I can talk to Esther about her brother, Robert, and get her to talk about child care. I can also try to interest her in sewing and fabrics and dress design at school, and see if I can find books and problems about these things to indicate word meanings. She dislikes books. She seemed to fear to try to do arithmetic or read when she came. In her small arithmetic committee, she has learned to count and she can tell time on the hours, and the half pasts, but beyond that—no soap yet. She is learning to try, however. She is no longer without hope of learning. She is now a part of her small group, and takes part with the others. In September, she took no part at all in group

play or work I haven't been able to find an art interest so far. She doesn't like printing or drawing. Sewing may do it. She may learn to draw patterns or read simple patterns.

"Do you know any place to find simple patterns for doll clothes with simple words and large print?" Miss Wolitarsky asked me.

I didn't and I felt inadequate. I almost went defensive and said I wouldn't have time to locate things like that. Instead I said nothing and resolved to try and, if successful, let my actions speak louder than my words.

"I wish I did," I answered. "That would be good motivation for a child like her."

"I'll have to remember about that car door, too. It may be that she has an interest in science. Some children can think very clearly about things like that. I wonder if she knows or senses something about air pressure. I had never heard about car doors closing easier with open windows."

Evaluation was a constant process, I had learned. It was testing, but more than that, it was constant intuitive observation, piling up impression and observation, detail after detail, until there was a great store of information about each child.

The way Miss Wolitarsky taught, she had opportunity to study and collect information to use in the evaluative process, and she had enough theory to make use of the things that were at hand every day to be observed.

Miss Wolitarsky, too, was bringing the parents into her planning. In some cases, this was relatively easy, but she sought opportunities when and where they were needed. She brought community leaders into her classroom as easily as she brought parents. In the case of the store, it was mainly the grocers who were involved, although the attention of many others had been attracted to it.

RETROSPECT

After three years at Hampton Rapids, I can look back with some pride and, of course, some disappointment. I have not been able to bring about all the changes I had hoped for. Some things have not changed at all; some have changed, but not enough; in some areas the improvement has been most gratifying. I have learned that changes come slowly and that the best insurance for improvement is to enlist the creative thinking of more heads than my own on each problem. That in itself, I learned, sometimes takes a lot of doing.

The teachers' study of reporting practices carried through the first year. Each P.T.A. appointed a committee to work with the teachers and we had our first workshop when interest on the part of parents justified Mr. Walker's taking two Friday afternoons in April for parent-teacher study

groups. A new report card was prepared and, for a year's experiment, the number of written reports during the year was reduced, with provision for time off for two parent conferences during the year.

In April and May of the next year, conferences and evaluative discussions were held with parents. Most of the parents favored the new procedure, but a respectable minority still believed the old marking methods were better. It was finally decided that for the second year each parent who wished should have two report cards of the old type during the year, one in November and one in May. They were insistent on having the conferences in addition, however, which indicated a growing conviction that the parent conferences were the most important practice of all. Both parents and the teachers made up their minds on the basis of study as well as observation of the children.

This last spring, the decision was made to ask the Superintendent to have the new report cards formally approved and to continue granting time for parent conferences. The demand for the continuance of the old marking system, even twice a year, was dropped.

The main factor involved in this decision was the success we had in getting parents to study the evidence and to approach the problem with open minds. When they studied it they reached the same conclusion the teachers did.

I am not half so proud of the new reporting procedure as I am of two things that it helped bring about. First, it demonstrated to parents that the schools are their schools and that we as teachers are anxious to provide the kind of schools our community wants, with the kind of methods and content that the people believe in. Second, it demonstrated to all of us that methods can be developed right in each school community for mutual study, with give and take, experimentation, willing postponement of final decisions, and eventual agreement.

Of course, the teachers learned many other things besides new theories and practices in reporting. They gained new insights into motivation, evaluation, mental health, the psychology of learning, the broad objectives of education, and a host of other things. Most important, they learned—and their principals and I learned—a lot about working together freely and equally on our common problems.

• Discussion Questions

1. Why did Maxine not want to "rate" the teachers? Was it merely because she didn't have faith in present rating techniques?
2. Why didn't she wish to assist in hiring teachers?

3. Discuss the fallacy, if fallacy it is, in Miss Holden's idea that children had to "catch up" after the conclusion of a unit.
4. Discuss the implications of Miss Wickersham's statement that some of her children know more about things than she does. Would it be true that some children in almost every grade will be "brighter" than the teacher? What does this mean in terms of "good" teaching?
5. Should teachers insist, as a right, that they be warned when a supervisor is coming? Under what conditions might this be a fair demand? Under what conditions might it be superfluous and silly?
6. Why, when Maxine Schmidt was so anxious to speak at the breakfast where the teachers were discussing reporting to parents, did she say so little when her chance came? She merely offered to help find materials for study.
7. Why did she not speak until she was asked? Was she only cautious? How could she help quickly when she was too slow to "carry the ball"?
8. Maxine Schmidt missed many opportunities to be an "excellent" supervisor and helper. This is true regardless of the reader's convictions as to the proper role of a supervisor. Try to point out five or six missed opportunities or neglected areas in Miss Schmidt's work.
9. Try to list some attitudes and convictions displayed by Miss Schmidt which you approve wholeheartedly.
10. Would teachers admire her and profit from her presence in the school system? Why do you think so?

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